2.0 Project Description

The project description provides detailed information on project components, construction and operations for the Nacimiento Water Project. It is divided into multiple sections that include the project objective, general background on the proposed project, a description of the two proposed project options, project schedule, and equipment and personnel requirements.

The basis of the project design comes from a report prepared by Carollo Engineers entitled Nacimiento Project, EIR Preparation Phase Engineering Report prepared in 2002. This report contains an extensive amount of information that is not reproduced in the EIR, including pictures of the pipeline route and all proposed facility locations. This report is available from the County of San Luis Obispo Departments of Planning and Building, and Public Works, and is also available via the internet at http://www.slocountywater.org/nacimiento/index.html. Individuals wanting more information on the NWP project design should consult this report.

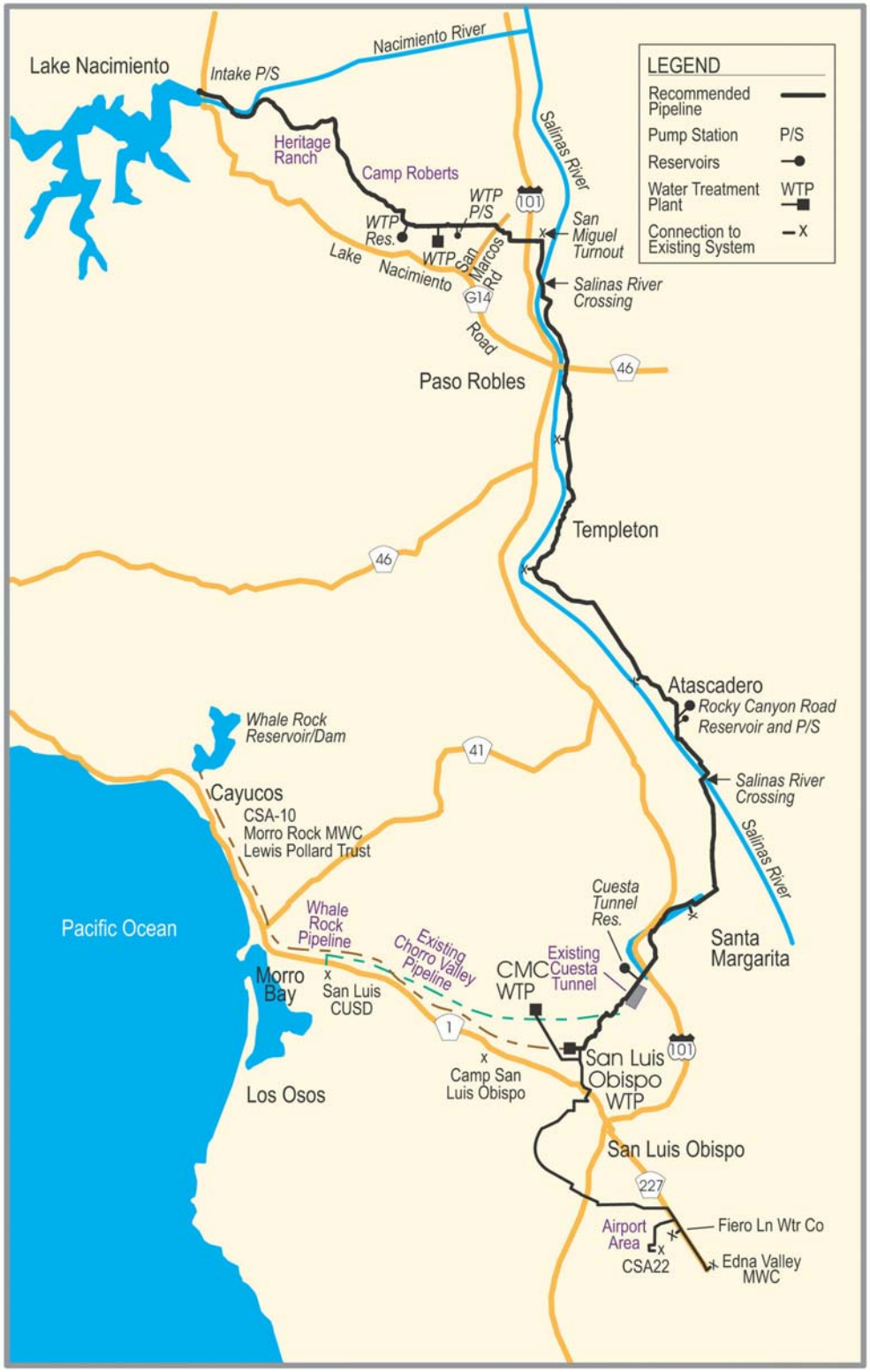
2.1 Project Location

The proposed project includes two equal water delivery options that will be evaluated and compared equally throughout the EIR: a Treated Water Option and a Raw Water Option. The proposed project location is shown in Figures 2-1 and 2-2 for the two co-equal alternatives being considered in this EIR. The proposed local water distribution pipelines and facilities would be located throughout a wide area of San Luis Obispo County between Lake Nacimiento and the City of San Luis Obispo. SLO County is bordered by Monterey County to the north, Kern and King Counties to the east, and Santa Barbara County to the south. Lake Nacimiento, the proposed water source, is located 16 miles west of the City of El Paso de Robles (Paso Robles), near the northern border of SLO County. Elevations in the project area range from sea level, near Cayucos along the coastal plain, to 1,577 feet above mean sea level (msl), north of the Cuesta Grade.

The project area transects three broad physiographic regions: coastal mountains and valleys, interior mountains and valleys, and a coastal plain. Lake Nacimiento is located in the Santa Lucia coastal mountain range. The Santa Lucia, Temblor, Caliente, and La Panza ranges form a part of the Coast Range Mountains which extend across the County in a northwest to southeast orientation. The highest peaks, many over 3,000 feet msl, are located in the Santa Lucia and Caliente ranges. Although none of the mountain ranges in the proposed project area are particularly high, the terrain is quite rugged.

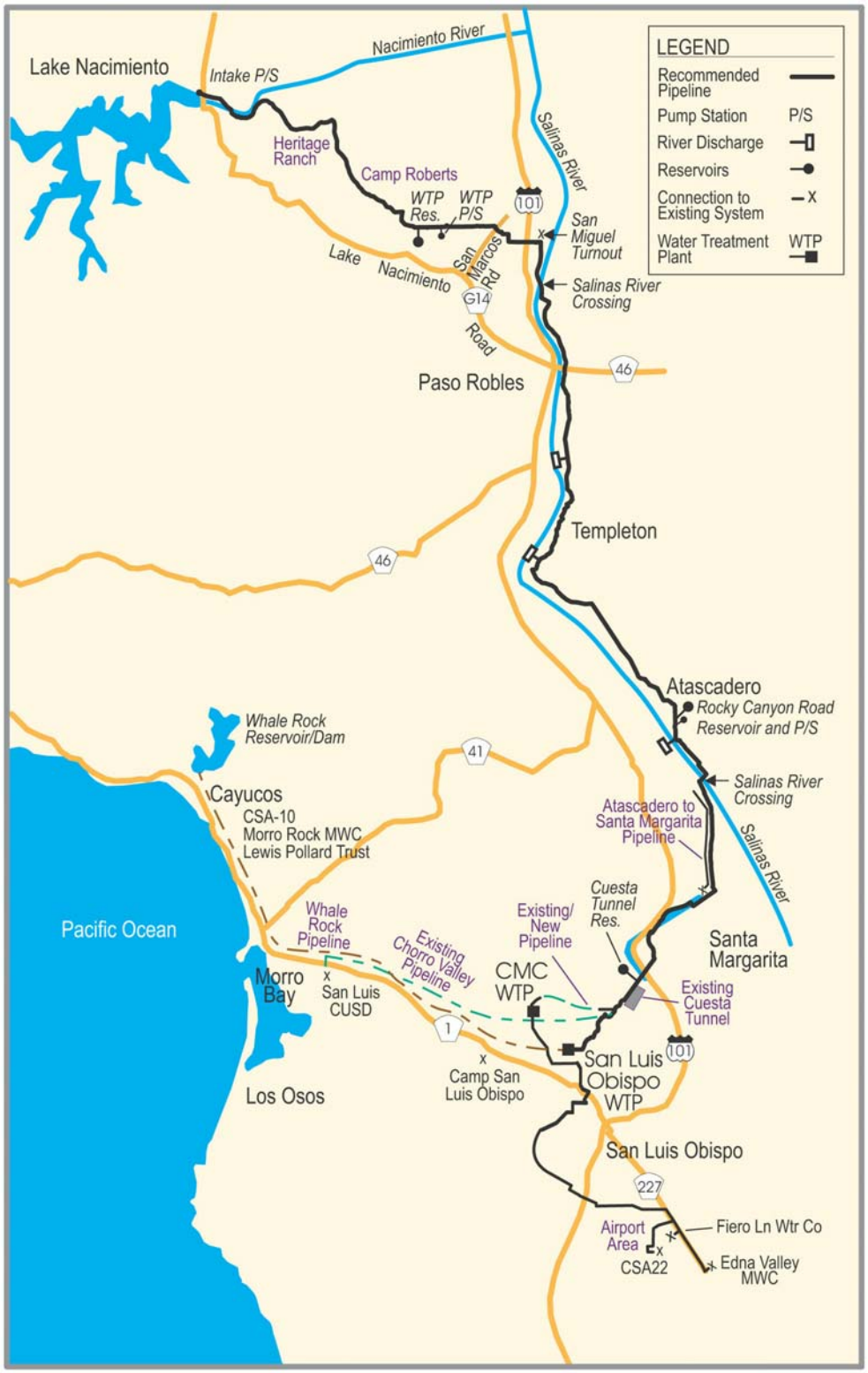
The cities of Paso Robles and Atascadero, and the communities of Templeton and Santa Margarita, are located in the interior valley within the La Panza Range. Major water courses in the interior valley north of the Cuesta Grade are the Nacimiento and Salinas rivers and Santa Margarita Creek. Major streams include Paso Robles, Santa Rita, Graves, Atascadero, San Marcos Creek and Yerba Buena creeks. South of the Cuesta Grade, major water courses in the project area include Stenner and San Luis Obispo creeks, Laguna Lake, and the Morro Bay Estuary. Major drainage basins include the Lake Nacimiento Watershed and the Salinas River.

Figure 2-1 Schematic of Treated Water Option



Source: Carollo Engineers, 2002

Figure 2-2 Schematic of Raw Water Option



Source: Carollo Engineers, 2002

Several westwardly trending lesser drainages in the Morro Bay and Cayucos areas occur along the coast. The Salinas River system drains a large basin in the northern interior of SLO County. This river is the largest single watershed in the Central Coast area and flows northward into Monterey County and eventually discharges into Monterey Bay.

2.2 Project Objectives and Need

The objective of the NWP is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of available water resources throughout the county.

In developing the project objectives, it is necessary to have an understanding of the water needs of the various participants. The following sections provide a summary of the water needs of the various project participants.

2.2.1 San Miguel Community Services District (610 afy)

San Miguel Community Services District (CSD) asks to be included in project planning for a delivery of 610 afy. Their primary need for supplemental water is to improve water quality. Over the years, nitrate levels have increased in community wells. Radioactivity is measurable, too. The CSD would benefit from blending local well water with treated Nacimiento water.

Regarding quantity, Wallace & Associates prepared a draft master plan for the water system in late 2002. Water demand is estimated to increase as vacant lots are developed. Based on hydrogeologic studies conducted in this area, it appears that there is sufficient quantity of ground water to meet anticipated demand. It is the quality of that supply that is deficient.

The requested turnout location is at Wellsona Road and Old Highway 101. It is understood that the pending environmental impact report and engineering analysis will include a turnout on the mainline only, not the spur line needed to convey water to the community water system. The CSD will make an independent environmental analysis associated with the construction of their spur line.

2.2.2 City of El Paso de Robles (4,000 afy)

The City currently relies on groundwater to meet the water demands of residents. This water is extracted from deep wells in the Paso Robles Ground Water Basin and from shallow wells along the river. It has two primary needs for supplemental water. One is to reliably meet the water needs of this growing urban area. The General Plan currently being updated forecasts population growth from approximately 28,000 to 47,000 residents. A second, reliable source of water is a component of the City's sound public facilities planning. The other need for supplemental water pertains to the City's ability to meet wastewater discharge requirements at its regional treatment plant. Increasing salt levels associated with widespread use of water softeners poses compliance

problems at the wastewater discharge area. A second source of higher quality water will better position the City to meet its discharge requirements and may avoid costly treatment upgrades at the wastewater plant, at its wells, or both.

2.2.3 Templeton Community Services District (250 afy)

Templeton CSD currently relies on groundwater to meet the water needs of residents. The District seeks supplemental water to meet the foreseeable needs associated with development of parcels within the existing service area. The current request does not represent all of the potential additional users, rather it represents the estimated demand associated with parcels that expressed plans to develop within, say, the next decade, and a willingness to participate in the financing of supplemental water.

2.2.4 Atascadero Mutual Water Company (3,000 afy)

The Atascadero Mutual Water Company (AMWC) service area encompasses hundreds of undeveloped parcels, therefore the Water Company's plans include reliable water supply for an increased population. Existing water supply consists of deep wells that pump from the Atascadero subbasin of the Paso Robles Ground Water Basin and both riparian and appropriated Salinas River underflow. The Water Company seeks delivery of Nacimiento Water to reliably meet existing customer water needs, to meet the increasing needs of this growing community, and to improve water quality in terms of hardness and possibly Lead and Copper Rule compliance.

2.2.5 Santa Margarita Ranch (200 afy)

Development plans for the Ranch call for some residential and recreation facilities as well as expanded vineyard planting. Ranch owners seek Nacimiento Water deliveries to provide reliable, good quality water for potable needs throughout the Ranch.

2.2.6 Santa Margarita County Service Area 23 (100 afy)

Water demand for the community of Santa Margarita is projected to increase from the current rate of 215 afy to 300 afy at build-out. Two wells now supply water to the community. One is a shallow well along Santa Margarita Creek that requires treatment to reduce corrosivity. The other is a deep, fractured rock well that is relatively costly to operate, requires filtration for iron and manganese removal, and has taste and odor problems. The estimated safe yield of developed supplies is only 200 afy, falling 100 afy short of forecasted water needs. For these reasons, CSA 23 seeks Nacimiento Water deliveries to improve water quality, reliability, and to provide sufficient quantity to meet forecasted water needs.

2.2.7 City of San Luis Obispo (3,380 afy)

The City of San Luis Obispo has requested an allocation of 3,380 afy to meet future demand and provide more reliable in City water supplies. The requested entitlement would meet the projected

water needs of the City of San Luis Obispo through build-out of the General Plan. The requested entitlement also includes 2,000 afy of water that would establish a Reliability Reserve. The Reliability Reserve is water that would help meet community water demand during a drought cycle, but would not be available to support growth or land development. On May 14, 2002, the City Council eliminated the policy that would require the establishment of a Reliability Reserve. However, in order to maintain the highest degree of flexibility and keep every option open, the City Council decided to maintain the current allocation request of 3,380 afy of water from the Nacimiento Water Project.

The City of San Luis Obispo's Water Conservation Program is considered to be very successful and has been in place since around 1985. The City's requested entitlement of water from the NWP takes unto account the City's ongoing water conservation efforts.

2.2.8 Camp San Luis Obispo (200 afy)

Camp SLO asks to be included in project planning for delivery of up to 200 afy. Their primary need for supplemental water is to reliably meet forecasted water demand during peak training periods. Increased activity in Federal, State, and County programs hosted at Camp SLO has resulted in an average daily population of more than 1300. This is more than doubled in the past seven years and is expected to increase in response to our nation's increased emphasis on military preparedness.

As stated in Col. John Menter's letter dated November 20, 2001, no new construction or development on the base would be triggered by additional water supply. Rehabilitation of dilapidated structures is planned to properly house planned military and quasi-military programs. At one time, Camp SLO operated wells, though these are not suitable for potable supply. They considered obtaining reclaimed water from the California Men's Colony wastewater treatment plant, though that supply is fully committed. Moreover, landscape irrigation makes up a small portion of overall water usage at the camp. Camp SLO also sought to purchase Shandon's 100 afy State Water entitlement. They were not successful in this attempt.

The current project planning includes delivery of Nacimiento water to the California Men's Colony water treatment plant. Camp SLO receives treated water from that existing treatment plant; therefore, their requested turnout location is already included in project planning. No additional spur line or distribution system improvements are planned as a result of receiving Nacimiento supplies.

2.2.9 San Luis Coastal Unified School District (55 afy)

The San Luis Coastal Unified School District requests an entitlement of 55 afy, which would reduce their water costs, thus freeing up resources for educational purposes. The District has an aggressive water conservation program which utilizes low flow plumbing fixtures, low water landscape practices and close monitoring of water usage. The District's water conservation program would continue even with the requested entitlement.

2.2.10 Cayucos County Service Area 10A (80 afy)

The community of Cayucos has an entitlement to 600 afy of Whale Rock Water plus access to limited coastal ground water supplies. CSA 10A's share of this entitlement is inadequate to meet forecasted water needs within the service area. CSA 10A seeks Nacimiento Water to reliably meet water needs of existing and future residents and to provide sufficient supply during the summer tourist season.

2.2.11 Lewis C. Pollard Family Trust (50 afy)

The Lewis C. Pollard Family Trust owns five parcels in Cayucos including an 84 unit travel trailer park. Shallow wells supply water under a permit issued by the County Health Department. Concerns have been raised concerning both water quality and reliability. The Pollard Trust requests delivery of 50 afy of Nacimiento water. A wheeling agreement with an adjacent water retailer would be needed to augment supplies at the trailer park.

2.2.12 Morro Rock Mutual Water Company (30 afy)

Morro Rock Mutual Water Company has requested 30 afy to meet projected build-out under current zoning and plans. These projections were estimated in the "Supplement to the 2000 Cayucos Area Water Organization (CAWO) Water Management Plan Update" dated January 2002. The requested entitlement includes the impact of the Company's retrofit and conservation programs.

2.2.13 Airport County Service Area 22 (890 afy)

The Airport Area Specific Plan outlines development of commercial/industrial and residential property throughout the Airport Area south of the City of San Luis Obispo city limits. The requested Nacimiento entitlement represents forecasted water needs for the contemplated development in this area.

2.2.14 Fiero Lane Water Company (30 afy)

The Fiero Lane Water Company requires an entitlement of 30 afy to meet future water needs for commercial and industrial users. Fiero Lane Water Company has a water conversation program which is reflected in the requested entitlement. The entitlement would only be used by commercial and industrial users, with no water going to residential use or future residential growth.

2.2.15 Edna Valley Mutual Water Company (700 afy)

The Edna Valley Mutual Water Company requires 700 afy to meet future growth in their service are to serve the proposed development known as Los Nomadas, located south of the City of San Luis Obispo.. This entitlement also includes water use reductions that result from the Company's conservation program.

2.3 Project Background

The proposed project is in response to SLO County's need for future water supplies and to supplement existing groundwater and surface water sources. The proposed project would potentially supply up to 16,200[1] afy of water to augment the existing water supplies in various communities within SLO County. SLO County currently obtains all its water from the local reservoirs and groundwater.

2.3.1 History of the Proposed Project

The use of water from Lake Nacimiento has long been recognized as a significant viable element in the county's regional water supply program. Water supply needs were anticipated in 1959 when the SLOFCWCD entered into agreements with the Monterey County Water Resources Agency to appropriate 17,500 afy of water from Lake Nacimiento. NWP was highly ranked in the SLO County Master Water Plan Update as a water supply alternative, second only to the SWP.

A series of studies on the NWP prepared under the direction of the SLO County Public Works Department and reviewed by the SLO County Board of Supervisors indicated that the NWP is a viable water supply project.

In 1992, the SLO County Board of Supervisors approved the use of 4,830 afy of supplemental water supplies from the SWP for eleven communities. In the EIR prepared to assess the impacts of the SWP, the California Department of Water Resources (DWR) estimated that without a supplemental water supply, development extraction of groundwater in SLO County will exceed dependable water supplies by about 81,000 afy by the year 2035 (DWR 1991). With the exception of the City of San Luis Obispo (which obtains regulated water supplies from Whale Rock as part of the Wale Rock commitment and Salinas Reservoirs) and the Cayucos purveyors who also have entitlements from Whale Rock reservoir, groundwater is the primary source of water for those communities applying to develop the NWP.

On May 5, 1995 the County Environmental Coordinator issued an NOP for an environmental impact report (ED 92-271) on the NWP. The proposed project consisted of two phases (Phases I and II). Phase I included construction and operation of a raw water pipeline system that would deliver untreated Lake Nacimiento water to the several water treatment plants that would be operated by the water purveyors (local treatment plants); this phase also included a stretch of treated water pipeline from the local treatment plants to several purveyors. Phase II included construction of several local water treatment plants, which could be deferred for up to ten years.

In November 1995, the County of San Luis Obispo retained Boyle Engineering Corporation, Carollo Engineers and Ogden Environmental and Energy Services as project manager, engineering consultant and environmental consultant, respectively, to prepare an engineering report and subsequent environmental evaluation for a water pipeline and associated appurtenances in the approved pipeline corridor. The engineering report and environmental document were to evaluate both treated and raw water options for delivering Nacimiento water to the county's purveyors.

[1] One acre foot equals 325,853 gallons.

On April 3, 1996 a revised NOP was issued based on changes in the project description for the NWP. A draft engineering report, Nacimiento Water Supply Project-Phase II, Draft EIR Preparation Phase Engineering Report by Carollo Engineers (1996 Carollo Draft Report) was prepared, followed by a Nacimiento Water Supply Project Draft EIR by Ogden Environmental and Energy Services (the NWP 1997 EIR).

During a public review of the NWP 1997 EIR several negative comments were brought up in regards to the placement of the pipeline route down Nacimiento Lake Drive, through Vine Street in Paso Robles, and down Main Street in Templeton. These comments largely focused on construction impacts along those roadways. Based on the comments, the County Board of Supervisors directed staff to investigate the feasibility of a new pipeline corridor through Camp Roberts as well as other alternatives and sub-alternatives which were submitted by the public during the EIR review process.

In September 1999, Boyle Engineering Corporation submitted the Nacimiento Water Supply Project, Pipeline Alignment and Profile (the 1999 Boyle Report), covering a revised pipeline alignment corridor. The revised corridor relocated the Lake Nacimiento intake on the north side of the reservoir, continued the pipeline easterly on the north side of the Nacimiento River before crossing the river on Camp Roberts property. The pipeline corridor then continued south-easterly through Camp Roberts, private land and public roads until it crossed to the east side of the Salinas River near Wellsona Road. It then continued south along the east side of the Salinas River on public roads and private land to the southern end of the City of Atascadero, where it re-crossed the Salinas River to the west side and joined the original route proposed in the 1996 Carollo Draft report.

The 1999 Boyle Engineering Corp. report also located a water treatment plant (WTP), storage facility and pump station on Camp Roberts' property, and a pump station and storage facility in the vicinity of the Salinas River crossing at the south end of the City of Atascadero, and made some suggested route and storage facility site changes in the vicinity of Santa Margarita.

In April 2002, Carollo Engineers submitted the Nacimiento Project, EIR Preparation Phase Engineering Report, Updated Draft (2002 Carollo Report). The Carollo Report incorporated the 1999 Boyle Report revised pipeline corridor and provided a detailed description and engineering analysis of elements within the treated and raw water options.

2.3.2 Proposed Water Distribution System

The SLO County Flood Control and Water Conservation District has a 17,500 afy entitlement from Lake Nacimiento per agreement executed in 1959 with Monterey County. Of this 17,500 afy, 16,200 afy is slated for this project and the remaining 1,300 afy is being reserved for local lakeside use.

Fifteen (15) purveyors submitted their requests for Lake Nacimiento water. Of the 16,200 afy available for the project, 13,575 afy is being requested; the remaining 2,625 afy is considered a County-owned contingency capacity.

Table 2.1 shows each purveyor allocation request and requested peaking factor, which is the extra project capacity requested to deliver the requested water considering system outages for maintenance and to deliver the requested water to better meet their system demands.

The allocations for each purveyor represent their initial requests and could change based on their individual needs at the time project participation agreements are negotiated. However, the total NWP allocation would not increase and project-wide growth-related impacts would not be appreciably different.

Table 2.1 Tentative Nacimiento Water Project Allocations

Water Purveyor	Allocation	Peaking Factor	Flow Rate	
	afy	% *	mgd	cfs
Pipeline				
San Miguel CSD	610	10	0.60	0.93
Paso Robles City	4,000	30	4.64	7.18
Templeton CSD	250	30	0.29	0.45
Atascadero MWC	3,000	30	3.48	5.38
Santa Margarita Ranch	200	10	0.20	0.30
CSA 23–Santa Margarita	100	30	0.12	0.19
San Luis Obispo City	3,380	10	3.32	5.14
Camp San Luis Obispo	200	10	0.20	0.30
San Luis CUSD–Morro Bay	55	10	0.05	0.08
CSA 10A Cayucos	80	10	0.08	0.12
Lewis Pollard Trust–Cayucos	50	10	0.05	0.08
Morro Rock MWC–Cayucos	30	10	0.03	0.05
CSA 22–Airport Area	890	10	0.87	1.35
Fiero Lane WC–Airport Area	30	10	0.03	0.05
Edna Valley MWC–Airport Area	700	10	0.69	1.06
Subtotal	13,575		15.25	23.59
SLO County (Contingency)	2,625	10	2.57	3.98
Pipeline Total	***16,200***		***17.82***	***27.57***
Lakeside Use				
Heritage Ranch CSD	475	NA	NA	NA
Heritage Ranch CSD	212	NA	NA	NA
Diamond Benefits Life Ins. Co.	413	NA	NA	NA
Sports clubs and other parties	94 1/3	NA	NA	NA
Available Lakeside	105 2/3	NA	NA	NA
Total Reserved for Lakeside use	***1,300***	NA	NA	NA
Total Allocation	**17,500**			

Notes: *Peaking factor is the percent of extra capacity requested by the purveyors to allow short term flows higher than the average of their yearly allocation. For the purveyors that requested no peaking, 10% has been added to allow for system downtime.

afy=acre feet per year; mgd=million gallons per day; cfs=cubic feet per second; MWC=Mutual Water Company; CSD=Community Services District; CSA=County Service Area; SLO=San Luis Obispo; WC=Water Company; NA = Not Applicable

Source: Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

2.3.2.1 San Miguel Community Services District

The water system in San Miguel is operated by the San Miguel CSD. The current source of supply is groundwater wells where the concentrations of nitrates and radioactivity are increasing. Options for increased water supply in this north county community are limited. New well development and supplies from Lake Nacimiento are being considered. San Miguel requests an entitlement of 610 afy treated water from the NWP at planned peaking factor of 1.1.

2.3.2.2 Paso Robles

Paso Robles supplies water to approximately 26,900 residents and 800 transient (i.e., hotel, etc.) accommodations in this north county community. The City relies on groundwater and Salinas River underflow to meet the demands of City residents. Paso Robles requests 4,000 afy from the NWP to be delivered at three locations in the City system, at a minimum hydraulic grade line (HGL) of 960 feet. A peaking factor of 1.3 is planned for delivery to the City.

2.3.2.3 Templeton Community Services District

The Templeton CSD provides water, sewer, and other services to the unincorporated community of Templeton, located between Atascadero and Paso Robles along Highway 101. Current sources of water are groundwater and Salinas River underflow. Templeton requests 250 afy of treated water from the NWP at a peaking factor of 1.3 and a minimum HGL of 1,010 feet. The desired turnout location for planning purposes is on the west side of the Vineyard Drive Bridge.

2.3.2.4 Atascadero Mutual Water Company

The AMWC supplies water to approximately 24,250 people in and around the City of Atascadero. AMWC relies wholly on groundwater and Salinas River underflow to meet the needs of its customers. AMWC requests 3,000 afy of treated supply from the NWP to be delivered at a single turnout on the west end of the new Highway 41 Bridge. A peaking factor of 1.3 from the NWP has been requested at a minimum desired HGL of 1,162 feet.

2.3.2.5 Santa Margarita Ranch Mutual Water Company

The Salinas River Area Plan Update contains criteria recommended by the County to allow limited development on the ranch subject to preparation of a specific development plan. The Ranch seeks 200 afy treated Nacimiento supply at a peaking factor of 1.1 and a minimum HGL of 1,200 feet at a turnout parallel with Wilhelmina Avenue.

2.3.2.6 County Services Area 23 – Santa Margarita

The water system serving Santa Margarita is operated by the County of San Luis Obispo as County Services Area (CSA) 23. The current source of supply is two shallow wells plus one deep well. Santa Margarita requests 100 afy of treated supply from the NWP at a planned peaking factor of 1.3. The desired point of connection to the system is at the intersection of Wilhelmina Avenue and "G" Street at a minimum HGL of 1,164 feet.

2.3.2.7 City of San Luis Obispo

The City of San Luis Obispo provides water to an estimated population of 44,613 in and around the City limits. The City's current sources of supply are Whale Rock Reservoir, Santa Margarita Lake (Salinas Reservoir), and wells. The City requests 3,380 afy from the NWP at a near constant rate of supply to be delivered to the weir elevation of the WTP clarifier along Stenner Creek Road (460 feet HGL). If treated water were delivered, then water is to be delivered to the city treatment plant at an HGL of 560 feet minimum. A peaking factor of 1.1 was used for the City of San Luis Obispo.

2.3.2.8 Camp San Luis Obispo

Camp San Luis Obispo asks to be included in project planning for delivery of up to 200 afy of water. Their primary need for supplemental water is to reliably meet forecasted water demand during peak training periods. Increased activity in Federal, State, and County programs hosted at Camp San Luis Obispo has resulted in an average daily population of more than 1,300. This is more than double in the past seven years and is expected to increase in response to our nation's increased emphasis on military preparedness.

The current project planning includes delivery of Nacimiento Project water to the California Men's Colony WTP; therefore, their requested turnout location is already included in project planning. No additional spur line or distribution system improvements are planned as a result of receiving NWP supplies. A Peaking factor of 1.1 was used.

2.3.2.9 San Luis Coastal Unified School District – Morro Bay

The water requested by the San Luis Community Unified School District (SLCUSD) is for three schools located within the City of Morro Bay (55 afy); Del Mar Elementary, Morro Elementary, and Morro Bay High School. They are presently being served by the City of Morro Bay through the City's distribution system. Their intent is to purchase Nacimiento Project water to be delivered through the State Water Project Chorro Valley Pipeline along with City of Morro Bay State Water. They anticipate negotiating an agreement with the City to wheel this water through the City of Morro Bay's system in the same manner they now receive water. A Peaking factor of 1.1 was used.

2.3.2.10 County Services Area 10A – Cayucos (CSA-10A)

CSA 10A, operated by SLO County, is one of three domestic purveyors in the coastal community of Cayucos. The three purveyors receive water from Whale Rock Reservoir per the terms of the March 20, 1958 agreement with the Whale Rock Commission for a total supply of 600 afy (including supply to the Cayucos Cemetery District). CSA 10A has an allocation of 190 afy from the 600 afy. Water is treated at a water treatment plant near the Whale Rock Reservoir Dam. A separate, jointly operated well also supplies water to the three purveyors. Two of the purveyors hope to arrange for an exchange of Nacimiento Project water to avoid costly construction of an extension to the existing Chorro Valley pipeline. CSA-10A requests an allocation of 80 afy in the NWP for exchange with a Whale Rock Commission member. A peaking factor of 1.1 is planned.

2.3.2.11 Lewis Pollard Trust – Cayucos

The Lewis C. Pollard Family Trust owns five parcels in Cayucos including an 84-unit trailer park. Shallow wells supply water under a permit issued by the County Health Department. Concerns have been raised concerning both water quality and reliability. The Pollard Trust requests delivery of 50 afy of Nacimiento water. A wheeling agreement with an adjacent water retailer would be needed to augment supplies at the trailer park. This is the same manner in which NWP supplies are proposed to be delivered to County Service Area 10A in Cayucos. A peaking factor of 1.1 is planned for this delivery.

2.3.2.12 Morro Rock Mutual Water Company – Cayucos

Morro Rock Mutual Water Company (MRM) is one of three domestic purveyors in the coastal community of Cayucos. The three purveyors receive water from Whale Rock Reservoir per the terms of the March 20, 1958 agreement with the Whale Rock Commission for a total annual supply of 600 afy, including an 18 afy allocation to the Cayucos Cemetery District. MRM's allocation is 170 afy of the 600 afy total. Water from Whale Rock Reservoir is treated at a WTP nearby. A separate, jointly operated well also supplies the three purveyors. MRM requests an allocation of 30 afy in the NWP system for exchange with a Whale Rock Commission Member. A peaking factor of 1.1 is planned.

2.3.2.13 County Service Area 22 – Airport Area

CSA 22 is an area encompassing approximately 1,700 acres immediately southeast of the City of San Luis Obispo. The entire airport area and specifically CSA 22 is located within the City's sphere of influence and a concept plan for varying land uses from residential to commercial and industrial has been approved by the Board of Supervisors and City Council for a number of years. Existing development is served by groundwater wells and small community systems. Sustained supply from underlying groundwater is reportedly limited. The District is requesting Nacimiento Project water be delivered directly at a HGL of 300 feet at a 1.1 peaking factor from a turnout located at Prado Road, and Los Osos Valley Road, or in the vicinity of Buckley Road.

2.3.2.14 Fiero Lane Water Company – Airport Area

Fiero Lane Water Company is seeking an entitlement of 30 afy to be delivered at a near-constant flow rate. The Water Company's service area is along Broad Street north of the airport. Fiero Lane Water Company serves only commercial sites. It has an existing water system with wells and storage tanks. Fiero Lane Water Company is requesting Nacimiento Project water to increase its current capacity. Water delivery is desired at a HGL of 300 feet at a 1.1 peaking factor.

2.3.2.15 Edna Valley Mutual Water Company – Airport Area

Edna Valley Mutual Water Company (MWC) currently serves the La Lomita Ranch properties and has requested water supply from the NWP to serve the proposed development known as Los Nomadas, located south of the City of San Luis Obispo. Edna Valley MWC seeks an entitlement

of 700 afy from the NWP at a peaking factor of 1.1. A turnout at Prado Road, Los Osos Valley Road, or in the vicinity of Buckley Road is desired, at a minimum HGL of 300 feet.

2.4 Proposed Water Treatment Options

The proposed project includes two equal water delivery options that will be evaluated and compared throughout this EIR: Treated Water Option and Raw Water Option. Both options include construction of the water intake at Lake Nacimiento, water storage tanks, pump stations and the water transmission pipeline. The differences between the options are that the Raw Water Option includes construction and operation of three water discharge facilities that would discharge water to the Salinas River underflow via percolation basins located outside of the Salinas River Channel. Construction and operation of these water discharge facilities would be the responsibility of the purveyors benefiting from the water (Paso Robles, Templeton, and Atascadero). The Treated Water Option also includes construction and operation of a central Water Treatment Plant and related facilities near Lake Nacimiento on Camp Roberts property.

The various parts of the two proposed options are summarized in Table 2.2. The detailed descriptions of the two proposed options are given in sections below.

Table 2.2 Project Components as Related to the Two Proposed Options

Component	Option	Responsibility	Comments
Nacimiento Reservoir Intake Structure	Both	SLO County	Reservoir Intake is part of both project options
Intake Pump Station	Both	SLO County	Intake PS is part of both project options
WTP Storage Tanks Facility	Both	SLO County	
Nacimiento WTP	Treated Water	SLO County	
WTP Pump Station	Both	SLO County	In Treated Water Option this PS is part of Nacimiento WTP
Pipeline	Both	SLO County	Pipeline route differs slightly depending on the proposed option
Rocky Canyon Storage Tank	Both	SLO County	
Happy Valley PS	Both	SLO County	
Three Water Discharge Areas	Raw Water	Local Water Purveyors	
Cuesta Tunnel Storage Tank	Both	SLO County	
Local WTPs	Raw Water	Local Water Purveyors	Not part of the proposed project

Notes: PS=pump station; WTP=Water Treatment Plant.

2.4.1 Treated Water Option

The main feature of this option is construction and operation of a WTP in the vicinity of Lake Nacimiento (Nacimiento WTP) on Camp Roberts and transmission of treated water to the identified purveyors. Figure 2-1 shows a general pipeline route and component locations for the Treated Water Option. Figures 2-3 through 2-24 contain more detailed maps of the pipeline corridor.

The Treated Water Option would consist of approximately 64 miles of the pipeline, a multiport water intake at Lake Nacimiento, a WTP, three pump stations, three storage facilities, and a

connection to the Chorro Valley Pipeline. This option would deliver treated water to all water project participants except the three Cayucos purveyors. The Cayucos purveyors' water allotment will be delivered to the City of San Luis Obispo and an exchange for Whale Rock water will take place.

The Treated Water Option originates at the intake/pump station above the Nacimiento Dam north abutment, and continues east along the Nacimiento River. The pipeline then crosses the Nacimiento River and continues southeasterly on private land, through Camp Roberts, and back to private land and public roadways before crossing the Salinas River southeast of the Wellsona Road and Highway 101 intersection. Within this pipeline segment, there is a WTP, a water storage facility, and a pump station on Camp Roberts, and a turnout to San Miguel at the intersection of Monterey and Wellsona Roads. San Miguel CSD will be responsible for providing a pipeline connection to deliver water from the main pipeline turnout to the community.

The main pipeline then continues southerly crossing to the east side of the Salinas River on roadways and private land before re-crossing the Salinas River near the southern end of the City of Atascadero near Santa Clara Road. Within this pipeline segment there are direct connections (turnouts) to Paso Robles, Templeton, and Atascadero water systems, Salinas River crossing, a storage tank site (Rocky Canyon Road storage tank) and a pump station (Happy Valley Pump Station).

The next pipeline segment generally follows El Camino Real through Santa Margarita, crossing Highway 101 to the west, and then paralleling Highway 101 on the west side to connect to a previously constructed Nacimiento water line through the Cuesta Tunnel. Connections to Santa Margarita and the Santa Margarita Ranch, plus a storage tank near Cuesta Tunnel are in this pipeline segment.

South of the Cuesta Tunnel, the pipeline continues down Stenner Creek Road, crosses Highway 1, then continues through streets on the west and south ends of San Luis Obispo and along the base of Cerro San Luis Mountain to the airport area. There are direct connections (branch lines) to the City of San Luis Obispo and several purveyors in the airport area. There is also a branch line, which leads west from the area of the City of San Luis Obispo WTP to the CMC WTP to serve Camp San Luis Obispo and SLCUSD Camp San Luis Obispo water will be wheeled through the CMC distribution system while SLCUSD water will be transferred at the CMC WTP to the Chorro Valley Pipeline and delivered in the City of Morro Bay (see Figure 2-1). The three Cayucos purveyors will negotiate an exchange with the City of San Luis Obispo for Whale Rock water.

Project responsibility terminates and purveyor responsibility begins directly after the individual purveyor's turnout facility.

2.4.2 Raw Water Option

The Raw Water Option includes construction and operation of the pipeline system that would deliver raw (untreated) water from Lake Nacimiento to the purveyors for their distribution via discharge ponds and and/or future local WTPs or expansion of existing WTPs (WTPs under

jurisdiction of the various water purveyors). Figure 2-2 shows a general pipeline route and components for the raw water option.

The Raw Water Option pipeline follows the same corridor as the Treated Water Option. The Raw Water Option system includes a reservoir intake/pump station (Intake pump station), the remaining two pump stations, three water storage tanks locations, the main pipeline route from Lake Nacimiento to the airport area south of the City of San Luis Obispo, and water discharge facilities for Paso Robles, Templeton, and Atascadero. San Miguel will be responsible for their pipeline and water treatment by either river discharge or a new WTP. Santa Margarita's water allotment will be discharged with the allotment of AMWC, wheeled through Atascadero's water system to the south part of Atascadero, and then via a new pipe to be constructed parallel to the main line to Santa Margarita. The Santa Margarita Ranch will construct its own WTP.

South of the Cuesta Tunnel, the City of San Luis Obispo will treat their water at their existing plant. The water for the area south of the airport will be diverted to the CMC WTP for treatment and returned to the transmission line contemplated in the treated water option to the airport at a point near the San Luis Obispo WTP. Water for the Cayucos purveyors will go to the existing San Luis Obispo WTP and an exchange will be made with the City for Whale Rock Reservoir water. Water for San Luis CUSD and Camp San Luis Obispo will be treated at the CMC WTP and will be distributed from the CMC WTP as described in the treated water options: Camp San Luis Obispo water will be wheeled through the CMC distribution system while SLCUSD water will be transferred at the CMC WTP to the Chorro Valley Pipeline and delivered in the City of Morro Bay (see Figure 2-2).

In the Raw Water Option, Atascadero, Templeton, and Paso Robles water allotments are to be percolated into the Salinas River to add to the underflow and the same quantity of water pumped from the river's underflow for delivery to each entity's water system. The AMWC pumping system would be located adjacent to the proposed percolation basins and would recover the NWP water before it reaches the Salinas River underflow. For Santa Margarita, the water will be discharged at the Atascadero discharge area and the pumped water sent to Santa Margarita through a wheeling arrangement with the AMWC and a new pipeline to connect the AMWC and CSA-23 system.

North of the Cuesta Grade, raw water would be discharged into unlined basins located in Salinas River alluvium where it would percolate and then be drawn up through existing well fields, disinfected, and purveyed. South of the Cuesta Grade, two pipeline segments are proposed. One would transmit raw water to the City of San Luis Obispo WTP. The second pipeline (U.S. Army "Corps of Engineers [ACOE] spur") would transmit raw water to an existing pipeline where it would be deposited into Chorro Reservoir and treated at the CMC WTP.

2.5 Characteristics of the Project Components

This subsection describes design, construction materials and techniques of the proposed project components.

2.5.1 Pipeline (Both Options)

The main part of both project options would be a pipeline transmission system that would deliver water from Lake Nacimiento to the water purveyors. This subsection describes the route, design, construction details and techniques, and operation of the proposed pipeline transmission system. The components of the pipeline system and their location along the pipeline are summarized in Table 2.3.

2.5.1.1 Pipeline Route Description

The following description identifies the pipe location by reaches. The pipeline reaches were defined as pipeline segments between two cost points in the treated water option as defined by Carollo Engineers Report (Carollo 2002). A cost point is where a major component is added to the line (e.g., a pump station) or where treated water is diverted to a purveyor. The written description should be used in conjunction with Aerial Photographs 1 through 22 of the Carollo Report, which have been included in the EIR at the end of this chapter as Figures 2-3 through 2-24. For the raw water option, the reaches will remain the same as the treated water option and components such as the river discharge points will be identified on the aerials and in the descriptions provided below.

Table 2.3 Project Pipeline System and its Components

Project and Pipeline Parts	Component Description	Pipeline ID, inch	Station No. on the Pipeline
Reach No. 1	Lake Nacimiento Intake and PS to WTP Storage Tanks Site and WTP	36	0+00 to 560+00
Reach No. 2	WTP Storage Tanks Site, Water Treatment Plant, PS No.2	30	Station 560+00
Reach No. 3	WTP to Monterey Rd. / Wellsona–San Miguel Turnout	30	560+00 to 775+00
Reach No. 3A	Monterey Rd. / Wellsona to Charolais Rd. / So. River Rd.-City of Paso Robles Turnout	30	775+00 to 1130+00
Reach No. 4	Charolais Rd. to Vineyard Dr.–Templeton CSD Turnout	30	1130+00 to 1415+00
Reach No. 5	Vineyard Dr. to New Hwy 41–AMWC Turnout	30	1415+00 to 1635+00
Reach No. 6	New Hwy 41 to Rocky Canyon Road	24	1635+00 to 1830+00
Reach No. 6A	Rocky Canyon Storage Tank	24	Station 1785+00
Reach No. 6B	Happy Valley Pump Station	24	Station 1785+00
Reach No. 7	Rocky Canyon Road to Santa Margarita/CSA 23 Turnout	24	1830+00 to 2150+00
Reach No. 7A	Santa Margarita / CSA 23 Turnout to Cuesta Tunnel Entrance Connection	24	2150+00 to 2320+00
Reach No. 7B	Cuesta Tunnel Storage Tank	24	Station 2310+00
Reach No. 8	Cuesta Tunnel	20	2320+00 to 2370+00
Reach No. 8A	Cuesta Tunnel to San Luis Obispo WTP	20	2370+00 to 2520+00
Reach No. 9	Facilities Beyond SLO City WTP to CMC	10	
Reach No. 10	Facilities Beyond SLO City WTP to Edna Valley	10 or 8	2520+00 to 3037+00

Notes: ID=internal diameter

Source: Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

The pipeline construction constructors would also use several staging areas. Staging areas are cleared sites where construction machinery and materials would be temporarily stored during construction of the pipeline segment in the vicinity of the staging area. The proposed staging areas were selected based on their proximity to the pipeline route and because they have been previously disturbed with their use posing little or no environmental or social impact. Some of these staging areas may not be available when construction commences. If this occurs, a new staging area will be identified that meets the same environmental criteria, thus minimizing potential environmental or social impact. New staging areas will be required to avoid impacts to nearby residents and businesses in the areas of noise, traffic, air quality. In addition, impacts to water quality via runoff, biological resources and cultural resources will also be minimized as part of the site selection process. New staging areas will be required to be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological areas.

Intake Pump Station to WTP (Sta. 0+00–560+00)

The pipeline will start at the Intake Pump Station (see Figure 2-3) and continue across Nacimiento Lake Road past the northern abutment of the Nacimiento Dam, down a dirt farm road parallel to the north side of the Nacimiento River, crossing into Camp Roberts' property still following the dirt road and crossing the Nacimiento River at approximately Station 110+00. In this stretch of pipeline, the pipe normally will stay in the center of the dirt road, however, it is expected in design that the pipeline may be straightened out in some areas but should stay within the 100-foot environmental corridor. It is proposed that the river crossing be open cut and the pipe will likely be trenched into rock. The contractor is expected to divert the stream to one side of the river channel while constructing the pipe across the other side of the river and then re-diverting the river flow over the top of the constructed portion of pipeline to complete the pipe's crossing on the opposite side of the river. Alternative construction methods will be further evaluated during final design. Construction of the Nacimiento River Crossing would be coordinated with the Monterey County Water Resources Agency (MCWRA) so construction does not occur during times of high water flow or releases to the Nacimiento River by the MCWRA.

The pipe would then continue for a short distance parallel to the stream before entering a dirt road which intersects Boy Scout Road. It then continues on or near Boy Scout Road, past the abandoned Boy Scout Bridge to the south side of the bridge and its abatements and approaches in an existing dirt roadway area to the intersection of West Perimeter Road (see Figure 2-4). In the stretch of dirt road, the pipeline stays in the centerline of the road. A staging area is proposed to the northwest of the intersection of the pipeline with Boy Scout Road. On Boy Scout Road the pipeline is located to the south-west side of the road from the intersection to P-10[2] in order to be as far away from the river as possible and on the uphill side of the road. There is very little shoulder so the pipe will have to be placed in the pavement for this stretch. It also crosses under a gas pipeline, as the gas pipe is buried quite shallow, and over a 24-inch culvert which is very deep. When it rejoins Boy Scout Road, the pipe stays on the northern side as the road is further away from the river and the right side has very steep embankments. Just prior to the abandoned

[2] The pipeline aerial photos/maps are marked with P-points—locations where there is a special point of interest or construction method on the pipeline route.

Boy Scout bridge, the pipe crosses over to the south side and down into the creek bed to the south side of the bridge. This keeps the pipe on the upstream side of the bridge to minimize any washing out of the pipe. It then continues on the south road shoulder until it joins West Perimeter Road.

At the intersection of Boy Scout Road and West Perimeter Road (Figure 2-4) the pipeline follows a short dirt cutoff road crossing the corner between the two roads. It then stays on the west side but off the pavement on West Perimeter Road as there is a stream on the left side of the road. In this stretch, it crosses three box culverts where it passes down into the stream to the west of the three box culverts. On General's Road it continues to stay on the west side until it branches off to the proposed WTP (Figures 2-5 and 2-6). In the short dirt farm road to the WTP it generally stays in the centerline of the dirt trail. A surge tank to handle power outages at pump stations and excessive pressures in the pipeline would be located on the pipeline prior to the WTP reservoir. Just prior to the WTP, the pipeline deflects to the south and up the hill to the WTP Reservoir site and a second pipeline will retrace the same route back down to the main pipeline corridor. From there it extends east along the northern boundary of Camp Roberts to the WTP site where the Camp boundaries turn south. This pipeline segment is intended to be aligned in the way that there will be a minimum amount of impact to existing oak trees.

WTP to Charolais Road/South River Road (Sta. 560+00–1130+00)

The pipeline leaves WTP Pump Station at the WTP site and continues east across private fields, crossing a stream at approximate station 590+00 and intersects Mahoney Road (Figure 2-6). It then continues easterly on Mahoney Road, then Texas Road, and continues east on a private road (Figure 2-7).

On private property it crosses open fields along the property line and then turns slightly north to cross perpendicular to the stream. On Mahoney Road it goes along the southern edge of the pavement as there is very little shoulder. After it crosses a short stretch of Texas Road and enters onto the dirt private road, it stays on the southern side where there is a larger shoulder.

At the end of the private road the pipe continues across a vineyard past P-34 to P-35 and then turns southeasterly crossing a stream (San Marcos Creek) and San Marcos Road. It follows San Marcos Road for a short distance until it intersects Wellsona Road (Figure 2-7). It follows Wellsona Road easterly, crosses Highway 101, and then turns south on Old Highway 101/Monterey Road. At P-41 the pipeline turns south-east and crosses the Salinas River and intersects North River Road (Figure 2-8).

In this stretch the pipe follows vineyard perimeter roads on the north edge of the vineyard and takes the shortest distance from the vineyards across San Marcos Road to Wellsona Road (Figure 2-7). Wellsona is a gravel road and has power lines located along its north side. There is very little shoulder so the pipe will be in the edge of the gravel on the south side of the road. In the vicinity of the Highway 101 crossing, a staging area is proposed at the northwest corner of Wellsona Road the freeway. The pipeline crossing Highway 101 will be jacked under the road per State standards (Figure 2-7). The pipeline then stays on the west side of Wellsona until it reaches Monterey Road (Figure 2-8). At this intersection, a turnout for San Miguel in the northern direction will be constructed, approximate station 775+00. The pipe turns south and stays on the western side of Monterey Road as there is a large shoulder or right of way (ROW) so that the pipeline can stay off the pavement. When it reaches P-41 and turns easterly, it will be

jacked underneath the railroad about 10 to 15 feet north of a railroad signal post. From the railroad, the pipe crosses an open field, through a row of pine trees before crossing the Salinas River.

The Salinas River crossing would be either a suspended pipe crossing, which would require abutments on both sides of the river plus cable anchors, or it would be installed via directional drilling beneath the river. There is a staging area adjacent to the east abutment of the pipe crossing.

When the pipe reaches North River Road at a point just north of the river crossing, it stays on the west side of the road just to the edge of the pavement until it passes by some farm homes (Figure 2-9). Just past the farm homes, it turns off to the further west into a farm field paralleling North River Road. It stays off the road until it reaches the Paso Robles wastewater lift station where it comes back on the roadway. From the Paso Robles wastewater lift station on North River Road the pipeline follows North River Road through the town of Paso Robles until it reaches Charolais Road (Figure 2-10).

Once the pipeline re-enters the road at the lift station, it generally stays within the pavement through most of North River Road as there are steep embankments on the left and the Salinas River on the right. There are several underground utilities in this area and the pipeline has been located to stay clear, as much as possible, of these utilities. There are certain areas such as near P-46 (Figure 2-9) where it crosses over a sewer line and therefore, must be in a casing or encased in concrete. The pipeline continues near the center of the road as it crosses under Highway 46 then turns to the eastern shoulder to again avoid a sewer line. At P-49 it turns back to the centerline of the road and at P-50 shifts to the western edge of the road. It stays in the western edge of the road until it reaches Creston Road. At Creston Road it is jacked under the road to the south side due to large traffic volume and passes through a City yard immediately after Creston Road. Within this City yard there will be another staging area on the western side of the South River Road.

Shortly after the City yard the pipeline follows west of a fence paralleling South River Road in an open area until it reaches a guardrail near P-54. From here the pipeline comes back onto the western edge of the pavement until it reaches P-56 (Figure 2-10). When the pipeline approaches P-56 it enters into a commercial area of the city. After a short distance, it crosses over to the eastern side just prior to Niblick Road to avoid utilities. On the eastern side there is a fairly wide shoulder where the pipeline is partially off the road. Due to heavy traffic, it will be jacked and bored under Niblick and Creston Roads crossings. Past Niblick Road it again is on the eastern side off the shoulder and to the west of a fiber optics cable until it reaches Charolais Road. In the treated water option a connection will be made to the City of Paso Robles water system at this point. Other connection points to Paso Robles system maybe made at Creston Road and near the Highway 46 crossing.

Charolais Road to Vineyard Drive (Sta. 1130+00–1415+00)

The pipeline follows South River Road for a short distance until it branches off onto Santa Ysabel Road (Figure 2-10). It then deflects to the right off Santa Ysabel Road on fields located on the Santa Ysabel Ranch property following a planned road/property line; and passes under the steep embankments adjacent to the river where three tunnels will be constructed. The pipeline emerges from the tunnel onto private property, follows a fence line across a third ranch property,

and then enters a dirt road just off Vaquero Drive (Figure 2-11). At Vaquero, it heads east and turns onto El Pomar Drive until it reaches the junction of Templeton Road and Vineyard Drive (Figure 2-12).

The pipeline crosses to the right shoulder at Charolais Road and continues on the west to Santa Ysabel Road (Figure 2-10). On Santa Ysabel Road, which is a gravel ranch road, it follows the right edge of the road. For the raw water option, a branch line for the Paso Robles river discharge facility turns toward the river (in the westerly direction) at P-65 just north of a private driveway and drainage channel and then continues past the residence into open land to the river. When the main pipe turns off Santa Ysabel Road at P-66, it goes across open fields approximately 40 feet to the east of the power lines. This particular route was approved by the owner's engineer and it follows the property owner's development of planned roads.

Once the pipe leaves the power lines west of the ranch house it cuts across to a fenced field and follows on the west side of a north/south fence just at the toe of the slope at the corner of the property. At this point there will be three tunnels, as the river is close to a very steep hillside and the pipe could not pass between them without impacting a large area of habitat or getting into the river channel (Figure 2-11). When it emerges from the three tunnels it will be on another private property and again with verbal approval of the owner, follows his westerly fence along the river. The pipeline then continues along the westerly fence of another ranch property until it reaches a stream where it turns east and follows a stream to Vaquero Road. On Vaquero Road and the subsequent El Pomar Drive it stays to the eastern shoulder.

In the raw water option, a branch line to the Templeton River discharge facility follows a dirt roadway at P-78 to a truck storage area parking lot on the river (Figure 2-11). This parking lot is proposed to also serve as a staging area. At the intersection of El Pomar Drive, Templeton Road and Vineyard Drive, the spur to the Templeton treated water system branches off in the westerly direction and goes across the river on the Vineyard Drive Bridge (Figure 2-12). A pressurized surge control tank would be located in this pipeline reach.

Vineyard Drive to New Highway 41 (Sta. 1415+00–1635+00)

The pipeline continues on Templeton Road until it reaches P-80 where it crosses through private property to minimize pipeline length (Figure 2-12) by avoiding following a winding section of Templeton Road, which would be a more circuitous route. On the south gate of Rolling A Ranch the pipe rejoins Templeton Road and follows roadway until it reaches the new Highway 41 road and bridge across the Salinas River (Figure 2-13). The pipeline on Templeton Road stays on the southern side of the road to the private property turnoff as there appears to be a very large shoulder for most of the distance. At this point there is a staging area on private property and the pipeline goes directly across open land to the Rolling A Ranch south gate. When it rejoins Templeton Road, it again stays on the western side; however, there does not appear to be a large shoulder so the pipe would have to be at least partially in the pavement.

In the treated water option, when the pipeline reaches the new Highway 41 road and bridge, a branch pipeline turns off onto the new highway in the westerly direction and then continuing south, crossing the new Highway 41 bridge into Atascadero and connects to the AMWC treated system near and existing pump house (Figure 2-13). In the raw water option a branch line for the Atascadero discharge area turns toward the river at P-79C and follows the property line until it

reaches the river (Figure 2-12). The discharge area is on the west bank of the river and the branch line will be open cut across the Salinas River.

New Highway 41 to Rocky Canyon Road (Sta. 1635+00–1830+00)
The main pipeline continues on Templeton Road, and then Rocky Canyon Road where the Rocky Canyon Storage Tank and Happy Valley Pump Station will be located (Figure 2-14). The pipe is located in the eastern edge of the pavement along Templeton Road and Rocky Canyon Road. It appeared that the eastern side had a little more shoulder and fewer utilities than the western road side. At P-83 the pipeline is diverted off the road and around the upstream end of an 8-foot culvert. There is insufficient earth depth above the culvert to place the pipe over the top. At P-84 the line is diverted to the east through fields to Rocky Canyon Storage Tank, then a parallel line returns from the storage tank and pump station back to Rocky Canyon Road. At the junction of Halcon Road and Rocky Canyon Road there is a staging area across Rocky Canyon Road to the southeast.

From Rocky Canyon Road to Santa Margarita (Sta. 1830+00–2150+00)
From Rocky Canyon Road (Figure 2-14) the pipe enters Happy Valley Ranch on the ranch entrance road, follows the western edge of the fields that are part of Happy Valley and Taft Ranches, and the eastern boundary of Salinas River estuary (Figure 2-15). At the Taft Ranch buildings (P-86) it turns west across the Salinas River on Santa Clara Road. There is an existing bridge that the pipeline will parallel, it will be constructed under, or adjacent to, the bridge in an open cut while the river is dry. The pipeline then follows Santa Clara Road to just before the Union Pacific Railroad. Santa Clara Road is a gravel road and the pipe will follow the right (north-western) side of the gravel road until it reaches the Union Pacific Railroad where it turns south on a dirt road parallel to and on the east side of the Union Pacific, but not on Union Pacific property.

The pipe continues for a short distance on the dirt road, across an open field, and crosses the railroad again to the west at P-87A (Figure 2-15). Each crossing of the railroad will be done through a bored and jacking method. From this point, it parallels the railroad, on the west side, until it reaches El Camino Real where it re-crosses the railroad to the east side. At P-88 the pipe crosses Trout Creek that has relatively high steep banks. This may require a suspended pipe crossing or directional drilling.

The pipeline then follows El Camino Real through Santa Margarita (Figure 2-16). A second line for water from Atascadero to Santa Margarita (raw water option) will parallel the main line along El Camino Real to Santa Margarita. The pipeline stretch along El Camino is open field until it reaches the Union Oil pumping facility. At that point, both pipes re-cross the railroad but still on the east side of El Camino Real ROW as the pipes pass in front of the pumping facility (this is done because there are many pipes and oil sumps in the pump station yard that cross the Union Oil property). As soon as the pipelines get past the facilities, they come back across the railroad to the east in open spaces until they reach Santa Margarita. In Santa Margarita, the pipes re-enter El Camino Real through town. Staging areas are proposed on the southeast side of the railroad tracks along El Camino Real. The pipes will stay in the pavement. There are water lines and other utilities yet to be defined in the street but no sewer lines, as Santa Margarita is not sewered.

Prior to the main pipe reaching Wilhelmina Avenue in Santa Margarita, it will have a turnout at the existing community well location for both Santa Margarita water systems in the treated water option. In the raw water option, a turnout on the main pipe for the Santa Margarita Ranch WTP will be provided and the second pipe from Atascadero will connect to the well field pipe approximately at station 2150+00.

Santa Margarita to the Cuesta Tunnel (Sta. 2150+00–2320+00)
The pipeline continues on El Camino Real, on the left there is the existing Santa Margarita booster station entrance, the pipeline then goes past the Salinas Project booster station, crosses Highway 101 to the west, then parallels the west side of Highway 101 to where it joins the existing Nacimiento pipe prior to the north entrance of the Cuesta tunnel (Figure 2-17).

In this particular stretch, the pipeline stays on the left (eastern) side, within the shoulder of El Camino Real. When it turns into the booster station, it will stay on the right side and in the pavement of the booster station road. It then crosses the booster station yard to the west of the building into open fields where it will be bored and jacked under Highway 101 to the west. On the west side, it parallels the freeway southward approximately 10 feet to the west of the power poles for a short distance and then crosses to the east side of the power poles for the remaining distance to Tassajara Creek Road. This stretch is made up of open country and dirt driveways. Once the pipeline crosses Tassajara Creek Road, it again parallels the east side of some power poles before entering a telephone cable trail. The trail is notched out of the very steep hillside, is very narrow, and, in some places, has been washed out. The trail will be rebuilt to allow the construction of the pipeline on the bench. When the pipeline emerges from the south end of the telephone trail, it continues on dirt driveways until it reaches P-103 where it connects to a section of the Nacimiento pipeline that has already been constructed through the Cuesta Tunnel. At this point a staging area is proposed.

The pipeline connection is still several hundred feet from the entrance of the tunnel. At this location there is a need for a storage tank (Cuesta Tunnel Storage Tank) which is at an elevation high enough (at 1,380 feet msl) so that the water can flow by gravity from the reservoir through the tunnel. The pipeline to the reservoir will have to be connected to the existing Nacimiento pipeline nearer to the entrance of the tunnel. There will be a pipe going up to the reservoir and then another pipeline returning back on the same route. There is a road to a spoil pile forming a bench up near the reservoir site. The reservoir will be notched into the hillside at or near the bench level.

Cuesta Tunnel to San Luis Obispo WTP (Sta. 2370+00–2520+00)
The main pipe connects to the existing pipeline from the tunnel (Figure 2-18), continues in open land down the hill, crosses the railroad, parallels the east side of the railroad tracks, turns south through open pasture until it reaches the old San Luis Obispo WTP, and then enters Stenner Creek Road and continue to the new San Luis Obispo WTP (Figures 2-19 and 2-20). A staging area will be provided where the pipeline enters Stenner Creek Road at the old San Luis Obispo WTP.

There are two pipelines in the Cuesta tunnel: one is part of the State Water Project and the other is part of the NWP. In addition to the two pipelines, there is an open flow channel carrying Salinas Project water. From the location where the proposed Nacimiento pipeline connects to the

downstream side of the existing Nacimiento pipeline from the tunnel, it continues downhill for a short distance, paralleling the State Water Project and the Salinas pipeline to a point where the Salinas pipeline and a branch of the State Water Project, called the Chorro Valley pipeline, turns west.

The NWP pipeline crosses over these two pipelines, continues down the hill in open land and is bored and jacked under the railroad track (Figure 2-18). It generally follows the east side of the railroad track except in crossing one deep gully where it moves away from the track for a short distance. It then continues to follow the east side of the tracks to P-108 where it turns south going over open pasture to the old San Luis Obispo WTP (Figure 2-19). When it joins Stenner Creek Road the intent is to remove an abandoned water line owned by the City of San Luis Obispo and replace it with the NWP pipeline down Stenner Creek Road. The pipe stays within the roadway except for one creek crossing where it goes to the west side of the road in front of the culvert and then back on to the road until it reaches the San Luis Obispo WTP. A turnout to the City's Storage Reservoir #2 will be provided for the treated water option while a turnout to the City's WTP will be provided for the raw water option. Also in the treated water option, at Camp San Luis Obispo and SLCUSD, a second turnout just south of the San Luis Obispo WTP will connect to a pipe going to the CMC WTP along the south side of the railroad tracks (Figure 2-20).

For the raw water option, within this same reach, a branch line at P-109 diverts water out of the main line, across open pasture up to where it connects to an existing abandoned line owned by the Corp of Engineers, but is maintained by SLO County (Figure 2-19). This line continues down towards Chorro Creek where it currently discharges into the creek. In the proposed project, the line would be extended across the creek and stay on the north side of Chorro Creek down to the CMC WTP intake reservoir. Here the water is to be treated. A treated water line then comes out of the CMC WTP and follows a road southerly until it intersects the railroad tracks. It then parallels the west and south sides of the railroad tracks until it reaches the City of San Luis Obispo's new WTP. At this point the pipeline will re-enter Stenner Creek Road.

San Luis Obispo WTP to Highway 227/Santa Fe Road (Sta. 2520+00–2935+00)
From the San Luis Obispo WTP the pipeline will be a treated water line for both the treated water and the raw water options. The main pipeline continues down Stenner Creek Road, turns easterly parallel to Highway 1 for a short distance, crossing Highway 1 onto Highland Drive, turns left (south) onto Patricia Drive, and then right (west) on Foothill Boulevard (Figure 2-21). At approximately station 2680+00, the line turns easterly across open fields following a major power line before crossing Madonna Road onto Dalido Drive (Figure 2-22). Here it crosses Highway 101, continuing on Prado Road extension, then enters an open area adjacent to Highway 227 (Figure 2-23). It turns south on Highway 227 for a short distance to the intersection of Highway 227 and Santa Fe Road.

When the pipeline leaves the San Luis Obispo WTP, it follows the right (western) shoulder of Stenner Creek Road. As it parallels Highway 1, it will be to the east side of the highway in open fields. When it crosses Highway 1 at P-114, it parallels the west side of Highway 1 for a short distance in an open area until it reaches Highland Drive and the streets of San Luis Obispo Figure 2-21). There is a staging area proposed on the northwest corner of Highway 1 and Highland Drive. This staging area may not be available at the time of construction due to the development of Cal Poly Faculty Housing. If this occurs, a new staging area will be required to

be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological areas. Another staging area is proposed on the northern corner of the pipeline and Madonna Road (Figure 2-22). Within these streets the pipe location varies but is positioned to avoid existing utilities. The City has plans to continue the Prado Road extension to Highway 227 (Figure 2-23) along the same alignment at the pipeline. When the pipe reaches Highway 227 it will stay on the right hand (western) side of Highway 227 to the junction of Highway 227 and Santa Fe Road. A staging area is provided on the southwest corner of the pipeline and Highway 227 as the pipe enters Highway 227. The City of San Luis Obispo plans on beginning construction of a new Sports Field at this location. Therefore, it is possible that the pipeline will need to be rerouted around the perimeter of the sports park. Also, a new staging area will be required to be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological or archaeological areas.

Highway 227/Santa Fe Road to Davenport Road (Sta. 2935+00–2935+00)
A branch line from Highway 227 follows Santa Fe Road to Buckley Road and turns east on Buckley for a short distance to reach CSA 22 distribution system turnout on Davenport Road (Figure 2-23).

Highway 227 (Sta. 2935+00–3037+00)
The main line serving Fiero Lane Water Company and Edna Valley MWC follows Highway 227 down to the Edna Valley MWC turnout (Figure 2-24). The pipeline will be located on the right (western) shoulder of the highway.

Atascadero to Santa Margarita Water (Raw Water Option)
The AMWC has agreed to wheel water from an expanded discharge facility and well field in their area to CSA 23—Santa Margarita in the raw water option. Water would be discharged in an expanded discharge area to accommodate the Santa Margarita water and would be handled as if it were AMWC water for discharge and extraction through their well fields in the Salinas River. AMWC would wheel the water through their system using existing pipelines. It may be necessary to increase capacity in some existing facilities to deliver water to the southern end of their system. These improvements to existing facilities may be required and would include pipe size upgrades and pump station modifications. From that point on, a new pipeline would be constructed along El Camino Real to Santa Margarita with the line paralleling the NWP pipeline (see Figures 2-15 and 2-16). It would be constructed in the same ROW; however, the two pipelines would be offset by at least four feet. The sizing of the line is anticipated to be 8 inches over the entire length. It is presumed that it would be operated on a continuous basis using the storage in the Santa Margarita system for handling any variations of flow. This supply would be supplemental to the current supplies that Santa Margarita has from its existing system. Final sizing of the pipeline and related facilities will have to await final design. Surge protection would be provided by valves and pressure rating of the piping system.

2.5.1.2 General Pipeline Characteristics

Both project options include construction and operation of the water distribution pipeline, see Figures 2-1 (Treated Water Option) and 2-2 (Raw Water Option). The detailed route of the

pipeline is given in Figures 2-3 through 2-24. The pipeline would consist of pipe ranging in diameter from 8 to 36 inches. The pipe material would be a combination of cement mortar lined ductile iron and cement mortar lined and coated steel pipe. Smaller diameters pipeline segments could be made of polyvinylchloride (PVC) depending upon pressure and operating elements.

The pipeline would start at the Intake pump station and continue across Nacimiento Lake Road and be approximately 55 to 65 miles long, depending on the selected project option or alternative. In addition to the main pipeline, approximately 4 miles of pipeline would be constructed to connect the main pipeline to the local systems, existing WTPs, pump stations, reservoir tanks, and discharge areas. The major portion of the pipeline from the water intake to Atascadero and from Happy Valley Pump Station to Cuesta Tunnel Reservoir would have a nominal operating pressure of 300 pounds per square inch (psi) or less. The portion of the pipeline in the south county could approach 400 psi. A surge tank and air release and air blow off valves would be installed on the pipeline to control and limit the pipeline pressure. Air release valves would be located at high points of the pipeline and blow off valves at selected low points on the pipeline. At this stage, the exact locations of the valves have not been determined. A preliminary pipeline pressure control system will include three air chambers, one one-way surge tank, and one other pressure control structure; these are summarized in Table 2.4 below.

Table 2.4 Pipeline Pressure Control Features

Pressure Control Feature	Location	Design
Surge Tank	Intake Pump Station	41 feet long by 8 feet diameter, volume 2,060 ft^3.
One-way Surge Tank	Between the Intake and the WTP Tanks	16 feet in diameter by 24 feet tall.
Air Chamber or Surge Tank	At Templeton turnout site	32 feet long by 8 feet in diameter, volume 1,610 ft^3.
Pressure Relief Structure	Between Rocky Canyon Road Tank and Happy Valley PS	10-inch valve.
Air Chamber	At the discharge of Happy Valley PS	24 feet long by 8 feet diameter, volume 1,210 ft^3.

Note: PS=Pump Station

The hydraulic analyses took into account the topography from the reservoir along each pipeline reach to the turnout locations. Gravity flow was maintained where possible and pipe diameter was selected to maintain a velocity of less than 6 feet per second. The main pipeline has been preliminarily sized to deliver each purveyor's requested peak flow to purveyor turnout, WTP, or reservoir location without the need for pumping at individual turnouts. The main pipeline would be sized so that either a treated or raw water option could be the final project. A 36-inch pipeline from the Intake Pump Station to the WTP site, a 30-inch pipeline from the WTP to the Atascadero turnout, and a 24-inch pipeline for the remaining distance to the Cuesta Tunnel Storage Tank are anticipated north of the tunnel. A 20-inch pipeline from the Cuesta Tunnel to the San Luis Obispo WTP and a 10-inch line from the San Luis Obispo WTP to Edna Valley MWC are envisioned for south of the tunnel. In the raw water option, a 12-inch pipeline for the "Corps of Engineers" spur and a 12-inch pipeline from the CMC WTP to the San Luis Obispo WTP will be required.

Whenever feasible, the pipeline would be constructed in, or parallel to, existing roads and public ROWs in order to minimize the need to purchase new ROWs, facilitate access and maintenance, minimize traffic congestion, and avoid disturbance of vegetation. Where possible, the pipe will be placed in the shoulder of the road to minimize pavement disruption, conflicting utilities, traffic control, and safety during construction and maintenance. However, on busy roadways (e.g., busy streets of Paso Robles and San Luis Obispo plus North and South River Roads near Paso Robles and El Camino Real near Santa Margarita.), if open land existed adjacent to the road, the pipe will be placed parallel to the road to minimize traffic interruptions. On dirt trails/roads, the pipeline will follow the center of the road. On Camp Roberts the pipeline will generally follow roads and fire breaks and will minimize impacts to existing pavement on West Perimeter Road.

All turnouts to purveyors will include meter stations, which may be located at grade or within a vault. Some turnouts/meter stations will be for a single purveyor and some may be for two or more purveyors with multiple meters. Turnouts for WTPs and river discharge areas will be a single line with a meter and will have the same effect on the hydraulic grade line as any diversion point.

Turnouts will include pressure and flow control valves and related telemetry to a central control system. The completed pipeline system will be controlled and monitored by a radio, telephone or satellite telemetry system. Water will be metered and pressure and flow controlled at each turnout to the purveyors and at the WTPs.

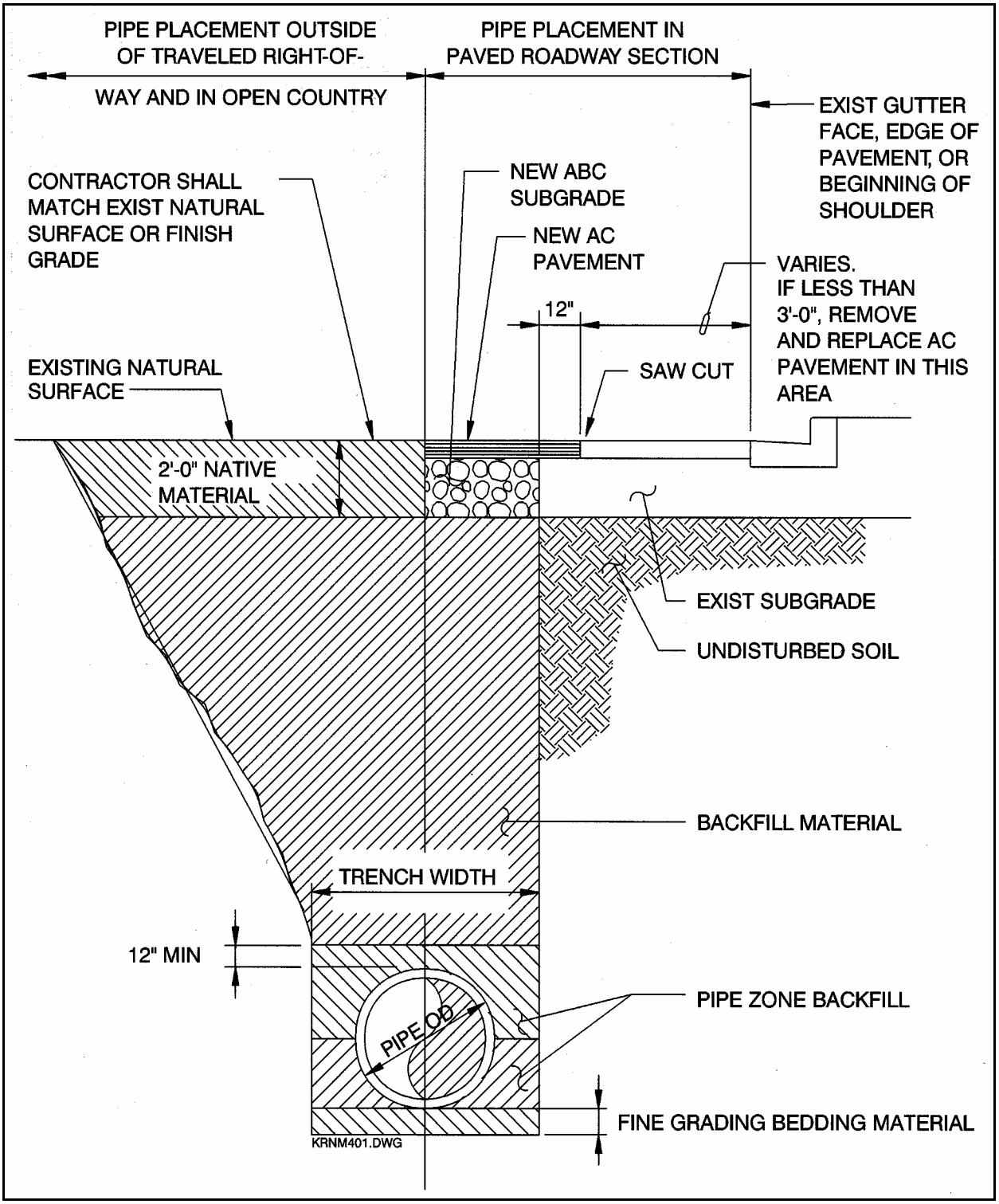
The proposed project will require a telemetry system to monitor and control turnouts, valves, pump stations, and storage tanks. It is anticipated that the WTPs will be controlled onsite but water entering and exiting the plant will be monitored and metered. The system transmitting the signals can be either hardwire within the pipe trench, telephone, radio, satellite, or some combination. A communications path analysis was not performed for this report but will be done during design. It is anticipated that if radio transmission is used, existing transmitter sites or possible satellite will be used. Therefore, only minimal new facilities are anticipated for the telemetry monitoring and control system.

2.5.1.3 Pipeline Installation Methods

The following section is a brief description of the pipeline installation methods.

A cross-section of a pipeline trench is presented in Figure 2-25. The final pipeline trench configuration will be determined during final design stage once geotechnical and geological design data are available. The pipeline would be laid in trenches at a minimum depth of cover of between 4 and 5 feet on overall average of 4 feet (except where spanning of streams is proposed) and the construction corridor would generally be assumed to be 100 feet wide, unless special circumstances (e.g., traffic control or existing vegetation) dictate a narrower construction corridor. The construction corridor could be reduced to 30-feet wide or less where specialized construction techniques are implemented. The width of a shored trench is assumed to vary from 5 to 10 feet. There must also be room for two vehicles to pass each other along the side of the trench. A permanent easement of 30 feet will be obtained for the pipeline and its operation.

Figure 2-25 Pipeline Trench Detail



Source: Carollo Engineers 2002

The pipeline would cross most of the streams and drainages by open-trench construction (see Figure 2-26) except for the Salinas River crossing near Wellsona. The pipe would cross the river either via a suspended pipe crossing (Figure 2-27) or under the river bed via a directional drilling technique (Figure 2-28). Eleven (11) shallow stream crossings are anticipated at locations P14, P17, P18, P19, P21, P30, P36, P76, P83, P107, and Station 2630+00 (see Figures 2-3 through 2-24). There is only one deep stream crossing expected at location P88. Railroads and State and Federal highways would be crossed by boring and jacking the pipe under the roadbed (see Figures 2-29 and 2-30).

Seven railroad crossings are anticipated. Busy street crossings will be required at Creston Road, Niblick Road, Highway 1 and Highway 101 (see locations P38, P52, P59, P97, P114, and P117). There are two or three tunnels proposed for the pipe route on the Santa Ysabel Ranch where micro tunneling techniques would be used (see Figure 2-31).

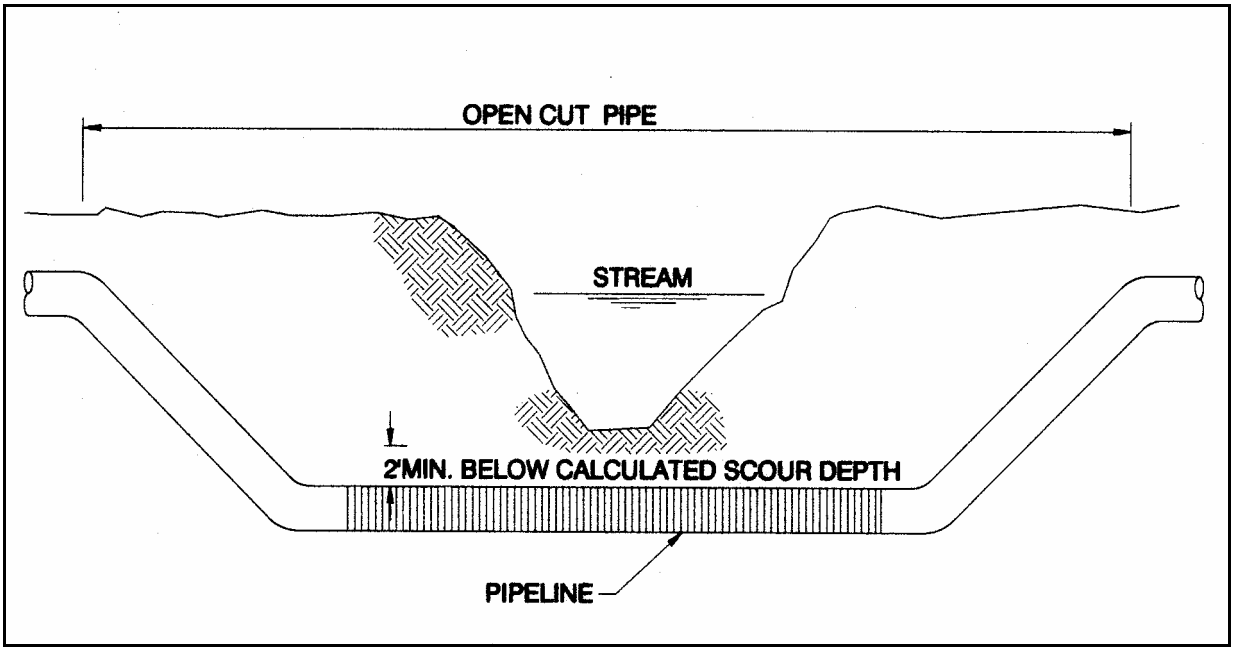
Several equipment staging areas will be required for storing equipment and materials during construction of the proposed project. These areas along the pipeline route would need to be cleared of any surface materials and fenced. Grassy areas will need to be cut, but other vegetation will not necessarily be removed. Construction staging areas are temporary locations for the storage, maintenance, and off-loading of construction-related equipment, employee vehicles, and supplies. Primary staging areas are locations that would be expected to exceed the 100-foot road ROW. SLOFCWCD has identified numerous potential staging areas within the 100-foot corridor. However, the exact locations and duration of construction staging areas cannot be determined precisely until after project approval and contractor selection. It would be the contractor's responsibility to determine where construction staging areas were needed, following general guidelines issued by the county to remain within public road ROW where possible, avoid removing existing vegetation or impacting creeks, locate in level areas that have been previously disturbed, and attempt to locate away from residences, schools, hospitals, and other noise sensitive areas. Final approval of construction staging areas would be contingent on a mitigation monitoring program which would include site inspection prior to use. The staging areas would be restored to existing conditions upon completion of construction.

Excavators, loaders, dozers, and blades will typically move along with the actual construction and be parked at or near the jobsite each night. Other vehicles, including dump trucks, fork lifts, back hoes, brooms, and water trucks will each make a number of trips each day, depending on the nature of construction, and will typically be stored at the contractor's yard or in secure areas along the alignment each night.

Employee vehicle trips are estimated at forty (40) per day per crew. Required construction equipment is presented in Section 2.6.

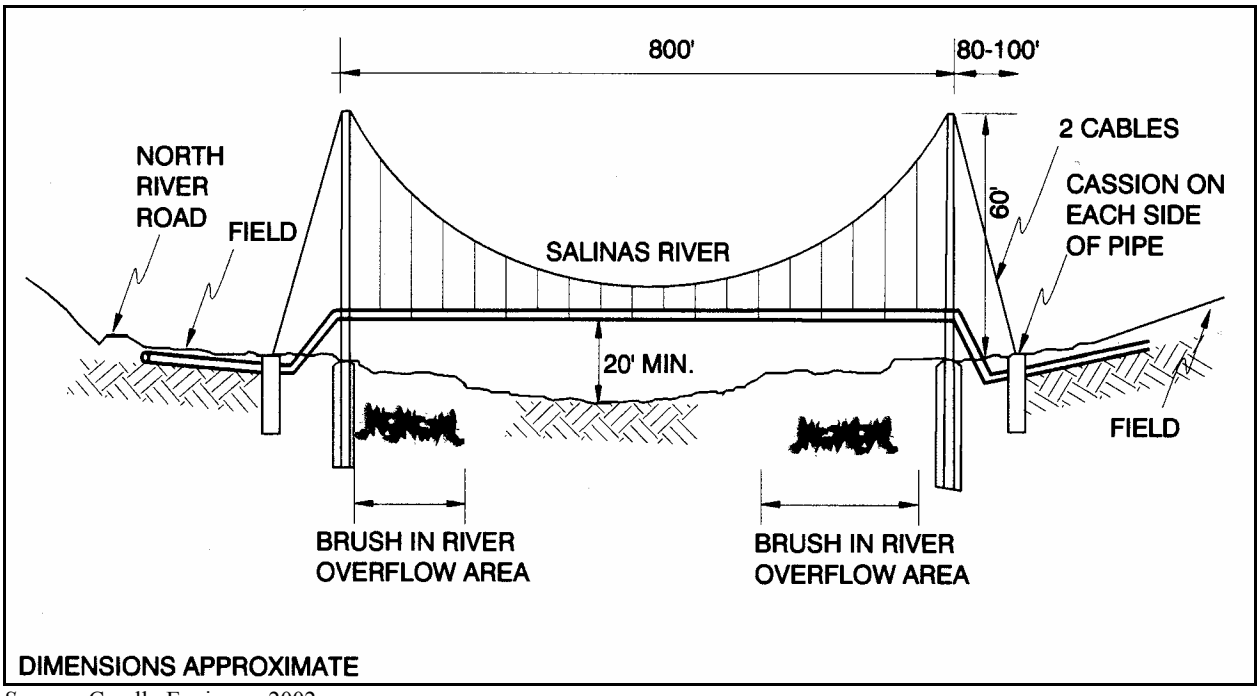
Dewatering operations for construction will be in compliance with State Water Resources Control Board discharge permit requirements and other construction permit requirements, such as Storm Water Pollution Prevention Plan (SWPPP) and encroachment permits.

Figure 2-26 Pipeline Creek Crossing



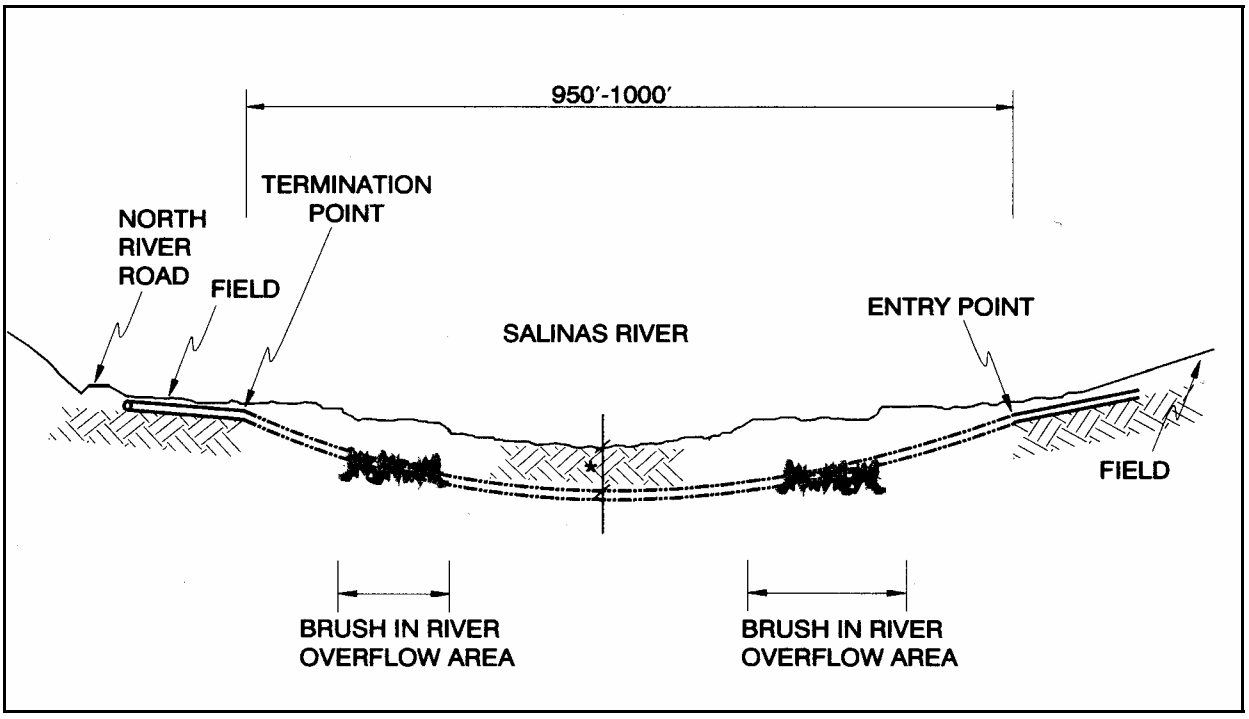
Source: Carollo Engineers 2002

Figure 2-27 Salinas River Suspended Pipe Crossing



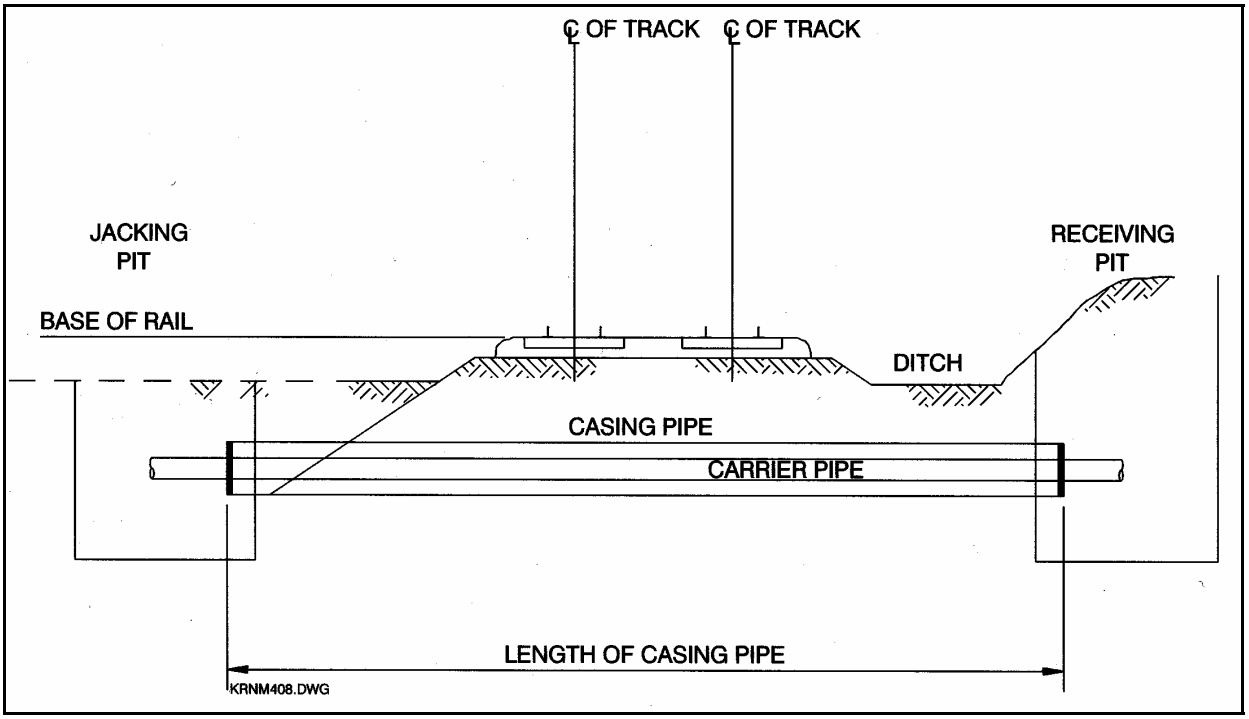
Source: Carollo Engineers 2002

Figure 2-28 Salinas River Directional Drilling Crossing



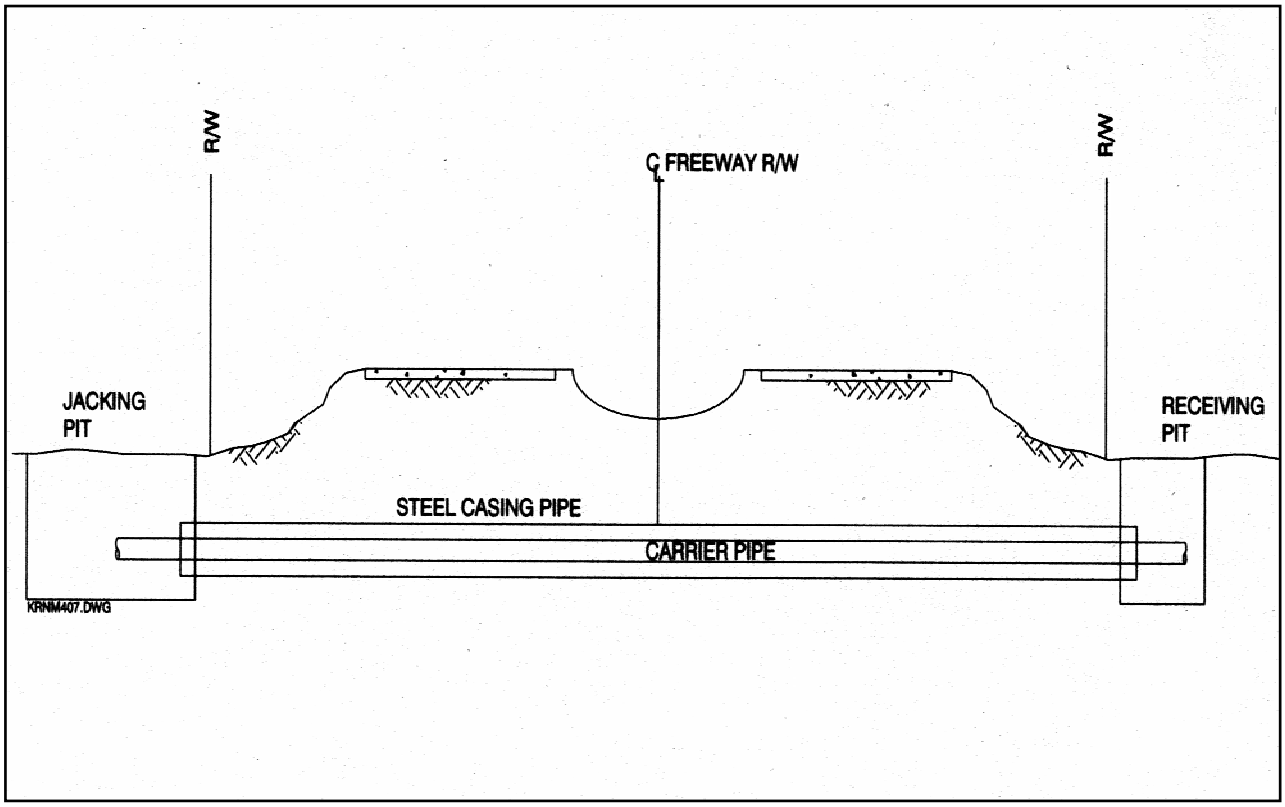
Source: Carollo Engineers 2002

Figure 2-29 Railroad Crossing



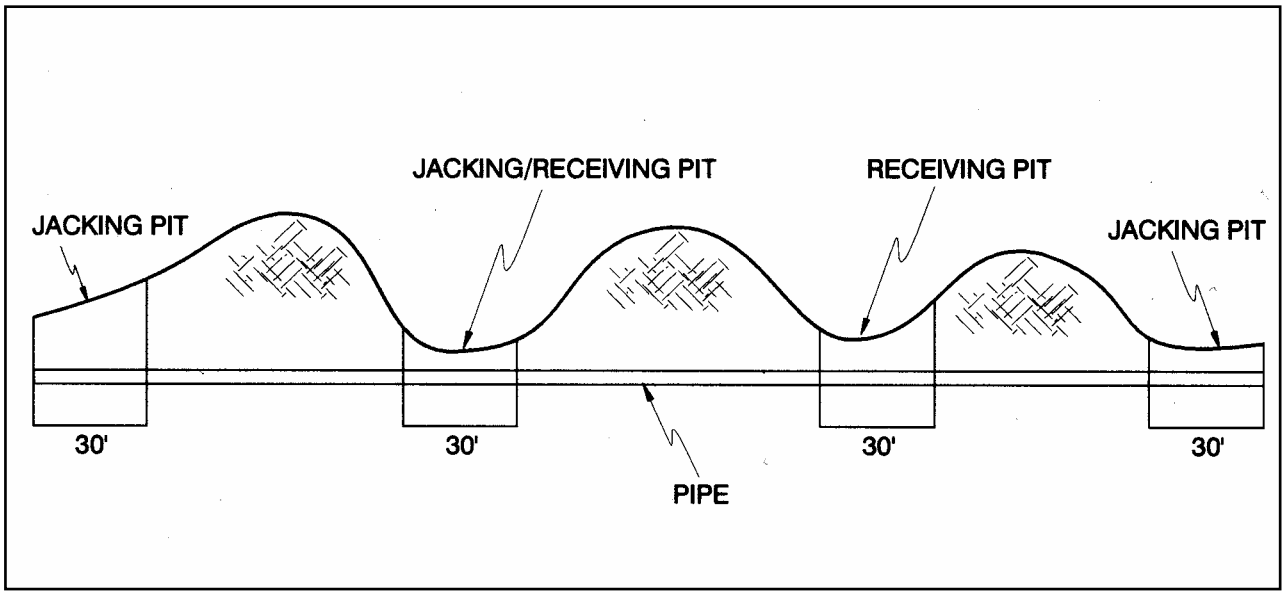
Source: Carollo Engineers 2002

Figure 2-30 Highway Crossing



Source: Carollo Engineers 2002

Figure 2-31 Elevation View of Micro Tunneling



Source: Carollo Engineers 2002

The types of specialized construction that have been identified are as follows:

- Three 600 to 700-foot long tunnels using micro tunneling boring techniques will be required on the Santa Ysabel Ranch to avoid Salinas River riparian corridor.
- Bore and jack will be required under Highway 101, State Road 1, and other major street crossings, railroad crossings, and possibly at other major utility crossings or other places where open trench construction is prohibited due to traffic impacts.
- One small stream will require suspended pipe crossing, which will involve the construction of abutments and piles to support a pipe span over the stream.
- The northern crossing of the Salinas River will be a suspended pipe crossing or by directional drilling.

Typical Construction in Open Country/Camp Roberts
In open country and in Camp Roberts, there is adequate width for construction purposes. The width of the construction footprint would be 60 to 100 feet. The pipeline trench can be constructed with sloped sides, requiring more width, and excavated trench materials can be placed adjacent to the trench. Little traffic control is required because the Camp has limited public access. Accessibility to the site is good.

Typical Construction in City Streets
In City streets there is typically less width available for construction. The trench sides usually require shoring to reduce trench width, unless soils are firm enough to safely eliminate shoring. Therefore, expected width of construction footprint in the city streets would be 40 to 60 feet (assumes shored trench). A staging area behind and/or in front of the laying area is used to store materials and equipment. Where traffic can be detoured, the typical construction procedure is to place excavated trench materials alongside the trench, to reduce handling time. A Traffic Control Plan is required because construction will result in a reduced number of lanes available for travel parallel to the pipe lay site. Also, provisions for limited site access would be required to protect the public from construction hazards.

Special Construction in City Streets
Where impacts on traffic must be minimized, special construction methods may be used to reduce the width of the work area (down to 30 feet). Excavated trench materials are placed in trucks and deposited behind the work area, rather than alongside the trench. During backfilling, the native materials must be reloaded onto trucks and carried back to the trench. This method of construction is slower and more expensive but will minimize impacts on traffic over a longer period of time. A Traffic Control Plan as well as provisions for limited site access will be required by the contractor as well. Backfill material in a particular area will be compatible with the standards of the municipality or agency having jurisdiction.

Pipeline Creek Crossings
Specialized construction procedures will be required at major creek crossings as shown in Figure 2-26. Normally, the pipeline would be placed deep underground, below the lowest expected scour depth of the creek, as deep as 10 to 20 feet. Trench width could be 20 to 40 feet, with the work area total footprint of 100 to 200 feet wide. Further study will be required at each specific

site to select the depth of cover. The pipeline would probably be encased in reinforced concrete under the creek bottom. Work areas would also be required on one or both banks of the creek.

It is anticipated that seasonal creeks and creeks with substantially reduced summer flows would be crossed by trenching. All creek crossings will be subject to California Department of Fish and Game (CDFG) permitting and review by others.

Ideally, construction of all creek crossings would take place in the dry summer months.

Surface and ground water flows if encountered will need to be diverted during trenching, pipe laying and backfilling. A temporary diversion channel or pipe could divert any creek flows around the construction area. In addition to diverting surface flows, underground flows and ground water will need to be collected and pumped to a point downstream of the construction. Dewatering operations will comply with State Water Resources Control Board (SWRCB) discharge permit requirements and other jurisdictional agencies.

Alternately, a temporary collection pond could be constructed upstream to collect surface and ground water, which would be pumped downstream in a temporary pipe. However, gravity flow is preferable to pumping, where possible.

Construction operations will increase turbidity in surface water when the temporary diversion structures are installed. A settling pond can be used to improve water quality downstream. After completion of construction across the creek, all diversion facilities will be removed and the stream bottom restored to near its original condition.

Salinas and Nacimiento River Crossings

The northern crossing of the Salinas River will be a suspended pipe crossing or a directional drilling operation under the river (see Figures 2-27 and 2-28). The suspended pipe crossing will disturb an area of approximately 100 feet wide and 200 feet long on each side of the river for construction of footings and cable caissons for the crossing. Directional drilling operations will require a 100-by-100-foot disturbed footprint area on both sides of the river for construction purposes.

For the Atascadero river discharge branch line, the southern Salinas River and the Nacimiento River, the crossings will be open cut. Each will be accomplished during times of lowest flows. The Southern Salinas River crossings are dry for several months during the summer. The open cut for the Southern Salinas River crossing and the Atascadero branch will be made in, or just upstream and parallel to, an existing washed out road across the river. The pipe depth should be determined during the final design but is expected to be at least 8-feet deep.

The Nacimiento River always has stream flow at the site of the proposed crossing. Visual inspection suggests a rock stream bed, however, its depth is not known. It is anticipated the contractor will divert the stream flow to one side of the river, using either an earth dike, sand bags, or a large pipe. Construction can take place on the dry side and then the diversion process will change sides. Alternative methods will be evaluated during final design.

If rock is encountered relatively near the stream bed surface, the pipe will be notched into the rock and then the space around the pipe and 2 feet over the pipe will be refilled with concrete. If there is loose material in the stream bed, the pipe will be trenched into the material. The depth in

a loose material stream bed will be determined in design but is expected to be a minimum of 15 feet.

Micro tunneling
There are three tunnels (No. 1, 2, and 3), each approximately 600 to 700 feet long, proposed on the Santa Ysabel Ranch east of Paso Robles on the eastern bank of Salinas River. The construction procedure (see Figure 2-31) would be to start Tunnels No. 1 and 2 at the northern side of the gullied area to be crossed via the tunnels and Tunnel No. 3 at the southern side of this area. Beginning access for Tunnel No. 1 can be reached along the pipeline route. Beginning access for Tunnel No. 2 and terminating access for Tunnel No. 1 can be reached from the east on a dirt trail in a gully on ranch land. Tunnel No. 3 would begin on the land owner's property to the south of the ranch and drill northerly along the pipe alignment. There is a gully between Tunnels No. 2 and 3 from the east on the ranch but access will be difficult due to steep slopes. The contractor should, however, be able to access smaller equipment required at the terminus of Tunnels No. 2 and 3 and for connecting the two pipelines from each tunnel. The initial construction at the tunnel entrance would entail an open cut into the hill to form a flat working space and a vertical face to start the boring machine. On the flat working surface, a 15- by-30-foot jacking pit will be excavated. The process entails a boring head, which is inserted into a hole on the vertical face of the hill and jacked or drilled into the hill. Short lengths of pipe are inserted behind the boring head and the pipes are then jacked to push the head through into the hill. Figure 2-31 shows an elevation view of a Micro-Tunnel Operation.

It is estimated approximately 250 yards of material will be taken from each tunnel. This spoil material must be hauled away and disposed of in accordance with all appropriate requirements. Approximately 100 feet by 100 feet long area at each end of the tunnels will be disturbed.

2.5.2 Reservoir Water Intake (Both Options)

Both proposed project options include construction and operation of a water intake structure that would convey water from Lake Nacimiento into the proposed pipeline. The intake would be constructed in conjunction with the Intake Pump Station, located on the north side of the Lake Nacimiento Dam, near the spillway, as shown in Figure 2-32.

The multi-level three-port intake would comprise a single shaft drilled or excavated vertically into the ground from the shoreline pump station to the depth of approximately 160–170 feet. At that depth the shaft would be connected with three 6-foot diameter horizontal intake tunnels or 36-42 inch bored pipe intake pipes at different elevations. The shaft would be of sufficient diameter to accommodate the vertical turbine pumps, control gates, and maintenance access. Both the vertical shaft and the tunnels or pipes would be concrete lined. Hydraulic control of the facility would be achieved within the vertical shaft where the control gates would be housed. Trash rack assemblies, or debris screens, would be placed at the upstream end of the horizontal tunnel shafts or pipes. The project will also utilize fish screens. Water would flow through the horizontal tunnels and into the sump at the bottom of the vertical shaft where the pump bowl assemblies are located. Five electrical turbine pumps that are part of the Intake Pump Station with bowl assemblies would extend vertically to the bottom of the vertical shaft.

The intake and pump station would require up to 2 acres of disturbed area above the high-water level, and as much as 0.5 acre below the high-water level. It is anticipated that the vertical shaft and the horizontal tunnels or pipelines in the recommended intake option will generate no more than approximately 4,000 cubic yards of material.

2.5.3 Water Storage Tanks (Both Options)

There are three storage reservoir facilities proposed: one on Camp Roberts at the WTP site, one on Rocky Canyon Road, and one near the entrance to the Cuesta Tunnel. A clearwell (treated water storage) will be part of the WTP. This clearwell will be used to supply the WTP pump station which in turn pumps the water to the pipeline exiting the site. The locations of the proposed storage tanks facilities are shown in Figure 2-1 with schematic drawings shown in Figures 2-33 through 2-35, respectively.

All three storage facilities would serve as a backup system to allow water availability up to 5 hours during equipment down time for both the treated water and raw water options. All storage facilities will include storage tanks, control valves in underground vaults, lighting, parking area, and access roads. All water storage tanks will be painted steel, colors will be chosen to be compatible with vegetation of the vicinity of each reservoir. All storage tanks will be 130 feet in diameter by 22–24 feet tall. The water storage sites will be completely fenced with a chain-link fence and the site lighting will be provided with motion detectors that will keep the lights on only when motion is present at the site.

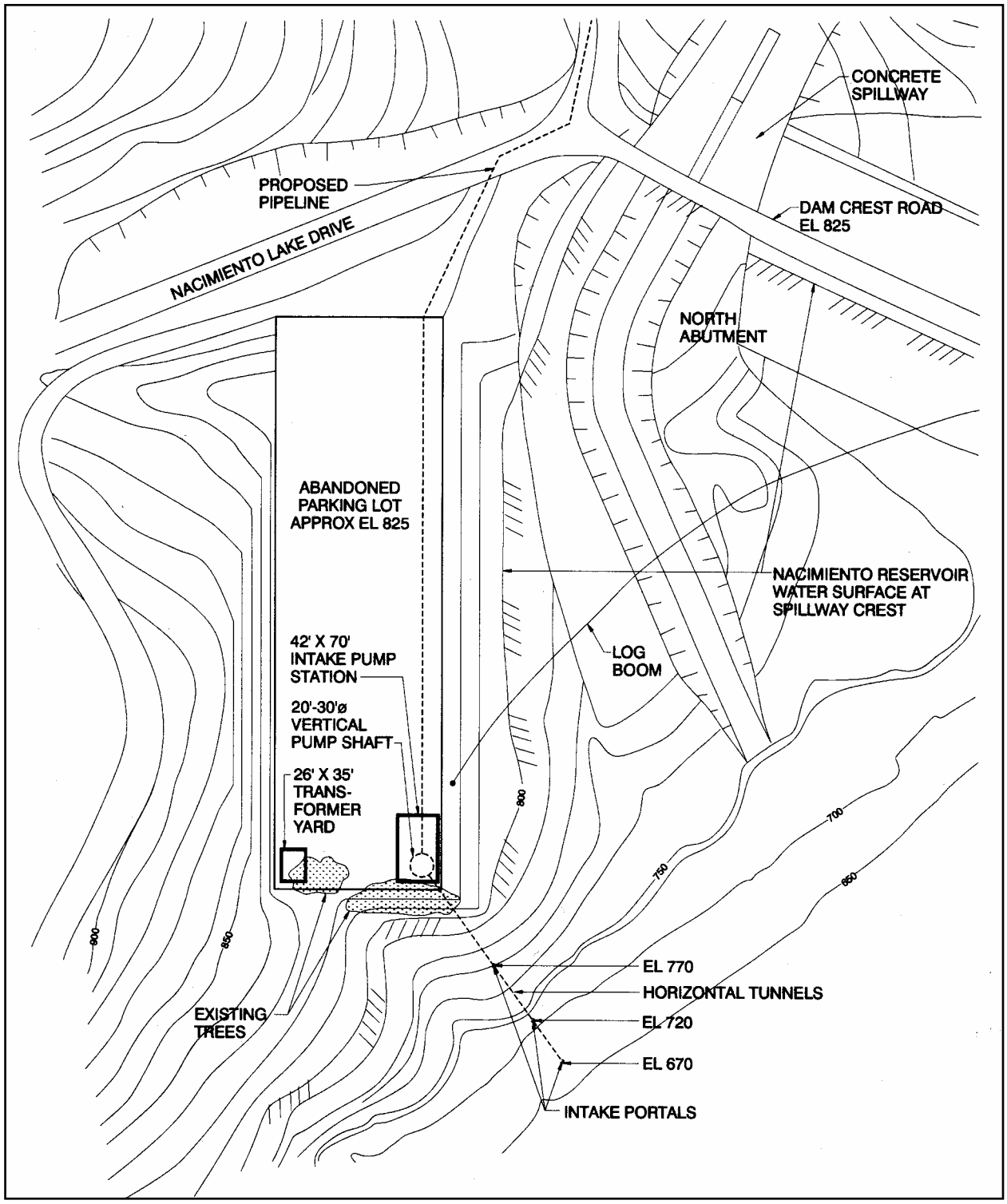
The Applicant has indicated that care will be taken to blend the water storage sites in the surrounding landscape as much as possible. Except where clearing is required for permanent works, road or excavation activities, trees, native shrubbery and other vegetation shall be preserved and protected. The edges of the vegetation shall be shaped irregularly to soften the undesirable visual impacts of straight lines. Landscape and restoration activities onsite will be designed and coordinated in accordance with a landscape plan conforming to local planning requirements. All vegetation selected for the landscaping plan would be chosen from the species native to the area or the climate and will be carefully selected to complement the facility as well reduce maintenance activities for their care and upkeep. Potential impacts associated with the construction and operations of these facilities are evaluated in Section 5 of this EIR.

Table 2.5 below summarizes the water storage facilities main features.

Table 2.5 Storage Tanks Description Summary

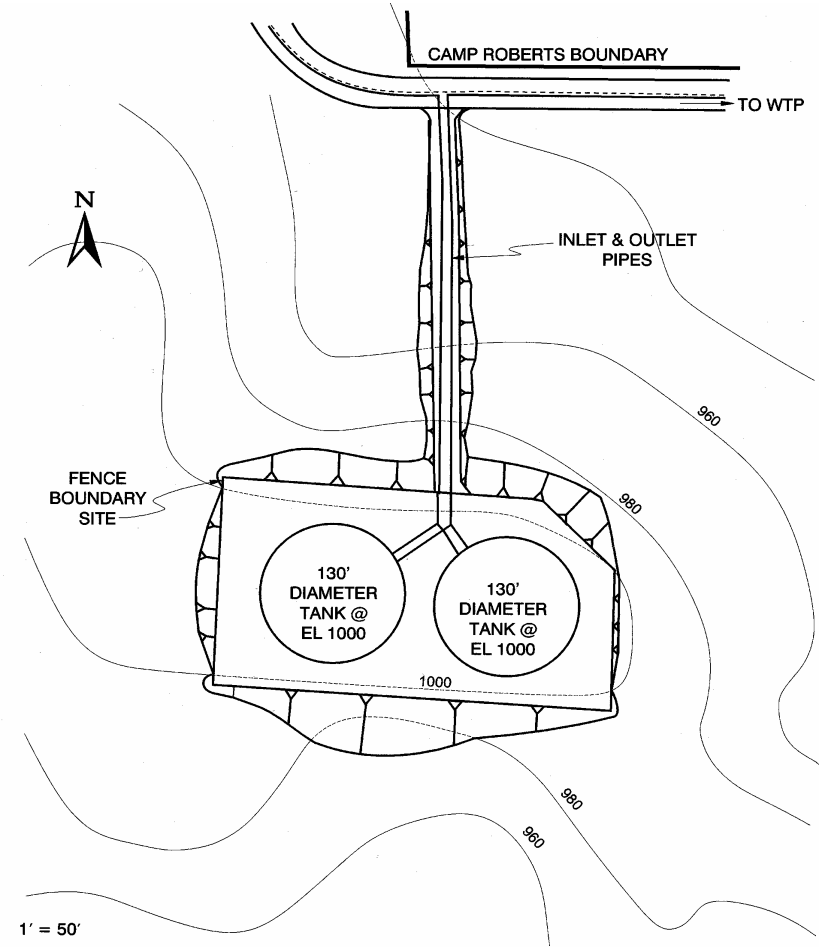
Tanks Location Name	Capacity	Cut and Fill Material Amount, yards^3	Base Elevation, feet
1. WTP	two tanks, 2,000,000 gallons each tank	18,000 (9,000 each tank)	1,000
2. Rocky Canyon	one tank, 2,000,000 gallons	12,000	980
3. Cuesta Tunnel	one tank, 2,000,000 gallons	15,000	1,380

Figure 2-32 Lake Nacimiento Intake Structure



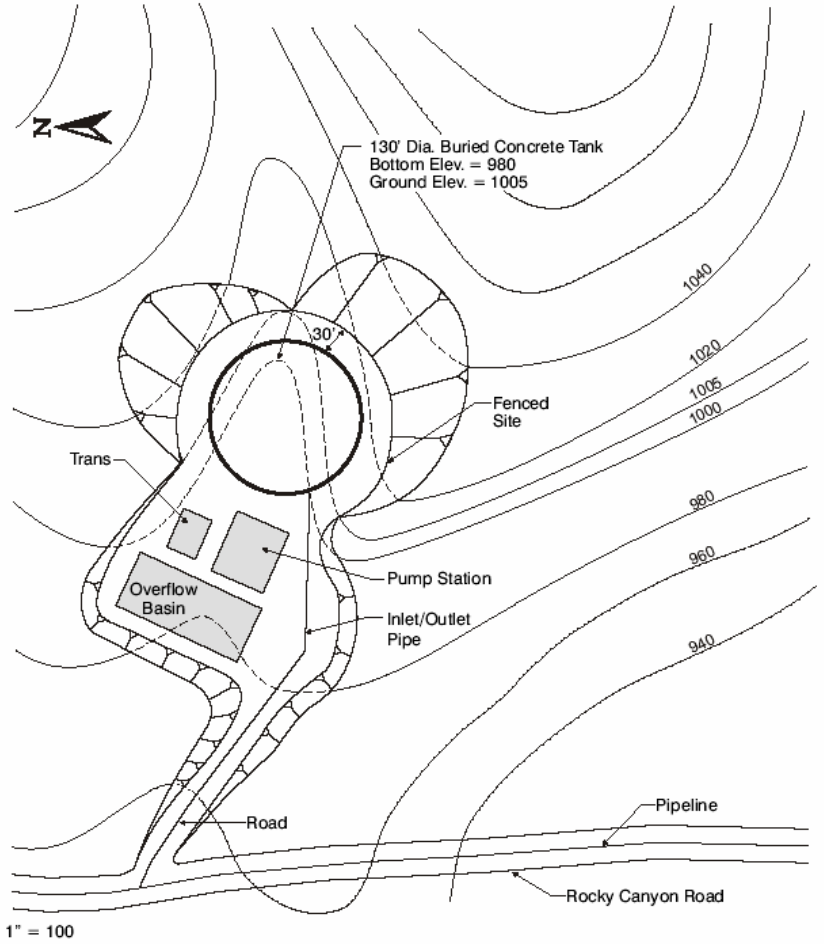
Source: Carollo Engineers 2002

Figure 2-33 WTP Water Storage Facility



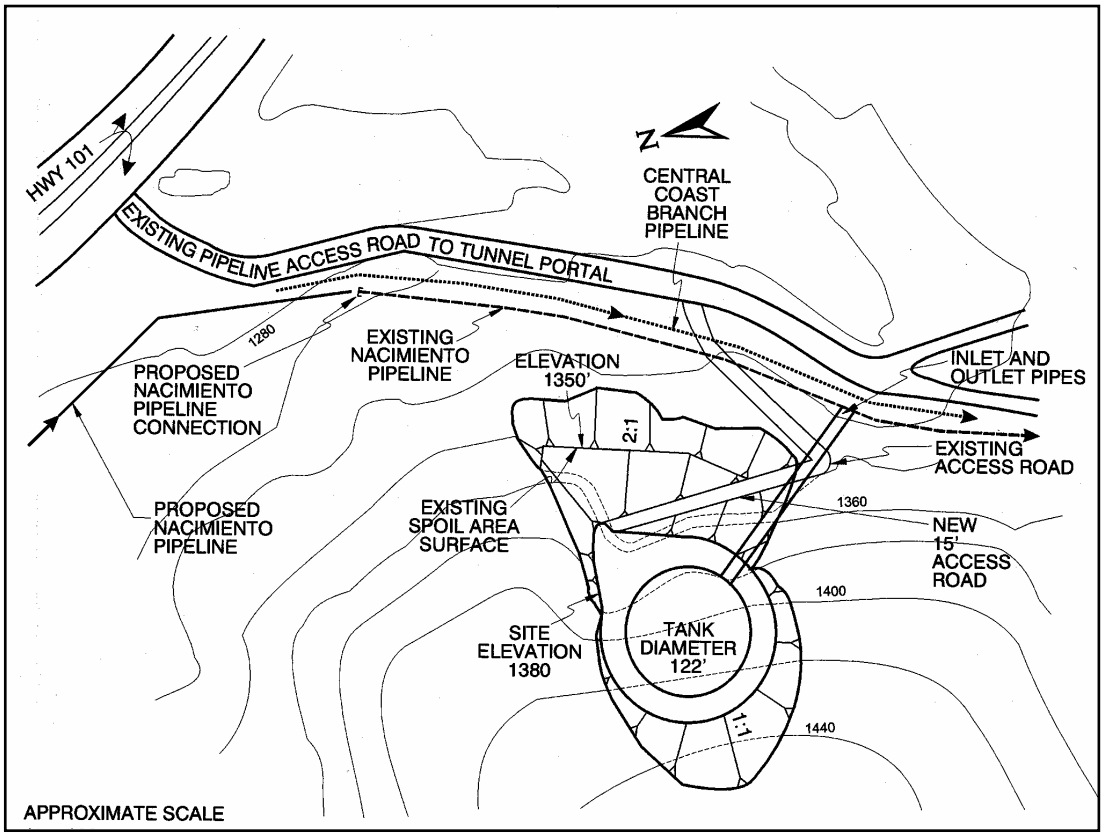
Source: Carollo Engineers 2002

Figure 2-34 Rocky Canyon Water Storage Facility



Source: Carollo Engineers 2002

Figure 2-35 Cuesta Tunnel Water Storage Facility



Source: Carollo Engineers 2002

The first storage facility of the proposed pipeline system would be located just prior to the WTP. This facility will serve as raw water storage for both proposed project options. This facility will be located on Camp Roberts property and is expected to have two aboveground tanks. The base elevation is set at 1,000 feet. The cut and fill material will be balanced at approximately 9,000 cubic yards for each storage tank.

The Rocky Canyon Storage Facility would consist of one storage tank with a capacity of 2,000,000 gallons. The tank would not be seen from Rocky Canyon Road, since it will be constructed underground. The base elevation of the storage tank is set at 980 feet. The cut material will be approximately 12,000 cubic yards and the fill material approximately 2,000 cubic yards.

The Cuesta Tunnel Reservoir (one storage tank at 2,000,000 gallons capacity) will be located just before Cuesta Tunnel at the top of Cuesta Grade. The base elevation is set at 1,380 feet. The cut and fill material will be balanced at approximately 15,000 cubic yards. It is expected that the existing tunnel spoil area at elevation 1,356 feet will be raised to elevation of 1,380 feet to accommodate the cut material and will serve as a parking area for the tank maintenance.

2.5.4 Pump Stations (Both Options)

Three pump stations are required for both project options as shown in Figure 2-1. These pump stations would transfer water between the three proposed water storage tanks.

The pump station facilities would be constructed primarily of masonry materials and landscaping would conform to local planning requirements. Design and colors will be chosen to be compatible with the structures and vegetation that surround each pump station. Exterior building design will be such that it blends in with other structures in the area. Section 5.1.2 contains visual illustrations of the propose building designs.

The buildings that accommodate the pumps would be provided with acoustical panels to attenuate noise from the pumps to acceptable levels. The sites will be completely fenced with a chain-link fence, the outdoor lighting will be provided with motion detectors that will keep the lights on only when motion is present at the site.

Except where clearing is required for permanent works, road, or excavation activities, all trees, native shrubbery, and other vegetation shall be preserved and protected. Landscape and restoration activities onsite will be designed and coordinated in accordance with a landscape plan conforming to local planning requirements. All vegetation selected for the landscaping plan would be chosen from the species native to the area and the climate (e.g., drought tolerant species) and will be carefully selected to complement the facility as well as reduce maintenance activities for their care and upkeep.

2.5.4.1 Intake Pump Station

The Intake pump station would be constructed in conjunction with the reservoir water intake site, near the upstream face of the Nacimiento Dam, which is the same for both project options. The Intake Pump Station would consist of five vertical turbine pumps (four active, one on stand-by), 500 horsepower each, located on the cover of the vertical shaft; a 20- to 30-foot diameter shaft in the intake. The pump station will be housed in a sound attenuated building. Other facilities would include a motor control center, possibly variable frequency drives, a small emergency generator with diesel engine for security lights and controls, an 8-foot diameter/41-foot long surge tank, an electrical transformer yard, and a parking area. The size of the central building would be approximately 42 by 70 feet and the electrical transformer yard would be approximately 26 by 35 feet.

The pump station would be designed to accommodate the surface water level of Lake Nacimiento, which varies from 670 feet to 800 feet in elevation from year to year. The water would be pumped to the WTP storage facility. A meter will be provided to record water flow rates and total pumped volumes. Both manual and automated controls will be provided, along with telemetry to a central control station. According to the power supplier, Pacific Gas & Electric (PG&E), they have enough power in the vicinity of Nacimiento Dam's left abutment to provide power to the pump station. It would require 3,000 feet of power line re-stringing and 200 feet of new poles (approximately 2–3 poles) to the pump station site. It is estimated that approximately 4,000 cubic yards of material will be removed during construction of the station.

2.5.4.2 WTP Pump Station

The WTP Pump station is proposed to pump water from the WTP site to Rocky Canyon Reservoir from an elevation of 900 feet to 1,510 feet msl. For the Treated Water Option the pumps will be part of the WTP and the water will be pumped from the WTP clearwell (clean water reservoir). For the Raw Water Option, this pump station will be an inline booster station being fed from WTP Storage Facility.

A preliminary description of this pump station and all related facilities for the Treated Water Option are contained in Section 2.5.4 as a part of the NWP WTP facilities description. For the Raw Water Option, independent pump station facilities will be located on the same site. Pump station facilities would include a 2,500 square foot building to house five 400 horsepower vertical turbine electrical pumps (four active, one on stand-by). A fenced area approximately 150 by 200 feet would be required for the pump station and the electrical transformers. Construction of an access road and a parking lot would also be required.

2.5.4.3 Happy Valley Pump Station

Happy Valley Pump Station would be located on Rocky Canyon Road near the water storage tank and will pump water to Cuesta Tunnel reservoir. This pump station is the same for both project options and will contain three 550 horsepower pumps (two active, one on stand-by). The site will require an area of approximately 150 by 200 feet with a building of approximately 50 by 50 feet. The building will be similar in appearance to the existing horse barns in the area or other suitable architectural designs.

The sound attenuated building will house the pumps, motor control center, variable speed drives if required, and a small emergency generator for security lights and controls. Adjacent to the building will be an overflow basin with an approximate volume of 0.46 acre-foot (approximately 100 by 100 feet by 3 feet deep) where infrequent surge water would be directed. Water from the basin will percolate into the native soils. The pump station will also include a transformer mounted on a pad and connecting electrical lines to deliver power to the station.

2.5.5 Nacimiento WTP (Treated Water Option)

Treated Water Option includes construction and operation of a 17 million gallon per day (mgd) capacity WTP for treatment of Lake Nacimiento water. Water from Lake Nacimiento would be treated at the plant to meet the drinking water quality criteria and then distributed to the consumers through the proposed pipeline system. The plant would be located within the boundaries of the U.S. Army's Camp Roberts facility north of Paso Robles.

2.5.5.1 WTP Construction

The WTP site would be approximately 1,000 by 1,200 feet (or approximately 28 acres), and would require clearing and grading. The site would consist of treatment area and approximately 5 acres of sludge drying beds. Different processes have been proposed for water treatment by the WTP, but a final design has not been selected. Conventional filtration water treatment would require the largest treatment process area footprint of approximately 400 by 900 feet (worst

case), which includes process area, chemicals storage area, spent water building, two treated water storage (clearwell) tanks, electrical substation and generator area, treated water pump station, and operations building. The process area would primarily consist of concrete basins and structures with mechanical equipment (e.g., mixers, pumps) located within the structures.

The operations building (approximately 6,000 square feet, one-storey) would include control room, general workshop, offices, parts and general storages, a laboratory, and several other service rooms.

At least 200,000 cubic yards of excavation would be required to prepare the 400 by 900 foot treatment site for the WTP and 5 acres of sludge drying beds.

Each of the two treated water storage tanks would be 24 feet tall and 135 feet in diameter and made of welded steel (already described in Section 2.5.3).

The WTP would require about 2,000 kilowatts (kW) to operate. Power to the WTP would be supplied through a new overhead power line that would originate at Highway 101 and would be constructed at the same time as the WTP. The proposed power line would be approximately 4 miles in length and would require approximately 50–55 new poles. The plant would also have a diesel or propane powered 100-kW emergency generator for operation of controls, lights and emergency equipment during power outages.

Construction of the WTP would require construction of a new access road, approximately 40 feet wide (24-foot wide asphalt pavement with 8-foot wide shoulders) and ¾ mile in length from San Marcos Road to the WTP site. The road would cross a drainage which would need to have a channel under the road. Grading for the access road would be 4,000 linear feet by 40 feet wide; the road would be paved with asphalt. The parking area of the WTP will also be paved with asphalt; the access roadway around the plant may be paved with asphalt or surfaced with good quality gravel to a depth of 12-15 inches.

2.5.5.2 WTP Operation

Operation of the WTP includes a combination of processes configured to remove suspended solids and microbes from surface water supply to convert it to drinking water that meets all applicable laws, rules, and regulations pertaining to drinking water quality. The conventional processes include rapid mixing, flocculation, and sedimentation for removal of most suspended particles including *Giardia*, viruses and *Cryptosporidium* as sludge. This treatment is followed by gravity filtration through filtration media, where smaller suspended particles and odorous and other organics are removed. Membrane treatment uses filtration through membranes for removal of both large and smaller suspended solids and microbes.

The water is then disinfected by a combination of ultraviolet (UV) light and chloramination and stored in the clearwell tanks. The WTP pump station would be a part of the WTP and would pump treated water from the WTP clearwell tanks further along the proposed pipeline to the Happy Valley Pump Station and Rocky Road Canyon Storage facility. Sodium hypochlorite will be used for chlorination. Sodium hypochlorite would be produced onsite from sodium chloride solution, which would be stored onsite.

Without regard to the specific WTP design, it would be operated in three shifts, 24 hours per day, and 7 days per week. The 8-hour day shift would be staffed with nine employees; the other two shifts would only have three employees per shift.

Most of the WTP's equipment would be electrical except for the 100 kW diesel or propane emergency generator. Outdoor lighting at the WTP would be equipped with motion detectors so that the outdoor lights are on only when motion is present at the site. Also, to comply with Camp Roberts requirements, there would be no white lights used at the facilities within the camp's boundaries, instead yellow or red lights will be used.

Operation of the WTP would require deliveries of various water treatment chemicals and materials. The delivery schedule would average up to 90 truck loads per year. Solids removed from raw water would be accumulated in the sludge drying beds. Generated sludge would be hauled to a landfill for disposal and would take 350 to 415 truck loads per year at 20 tons of sludge per truck. If membrane treatment is used the amount of sludge solids to be removed will be less then 10% of that listed above for conventional treatment.

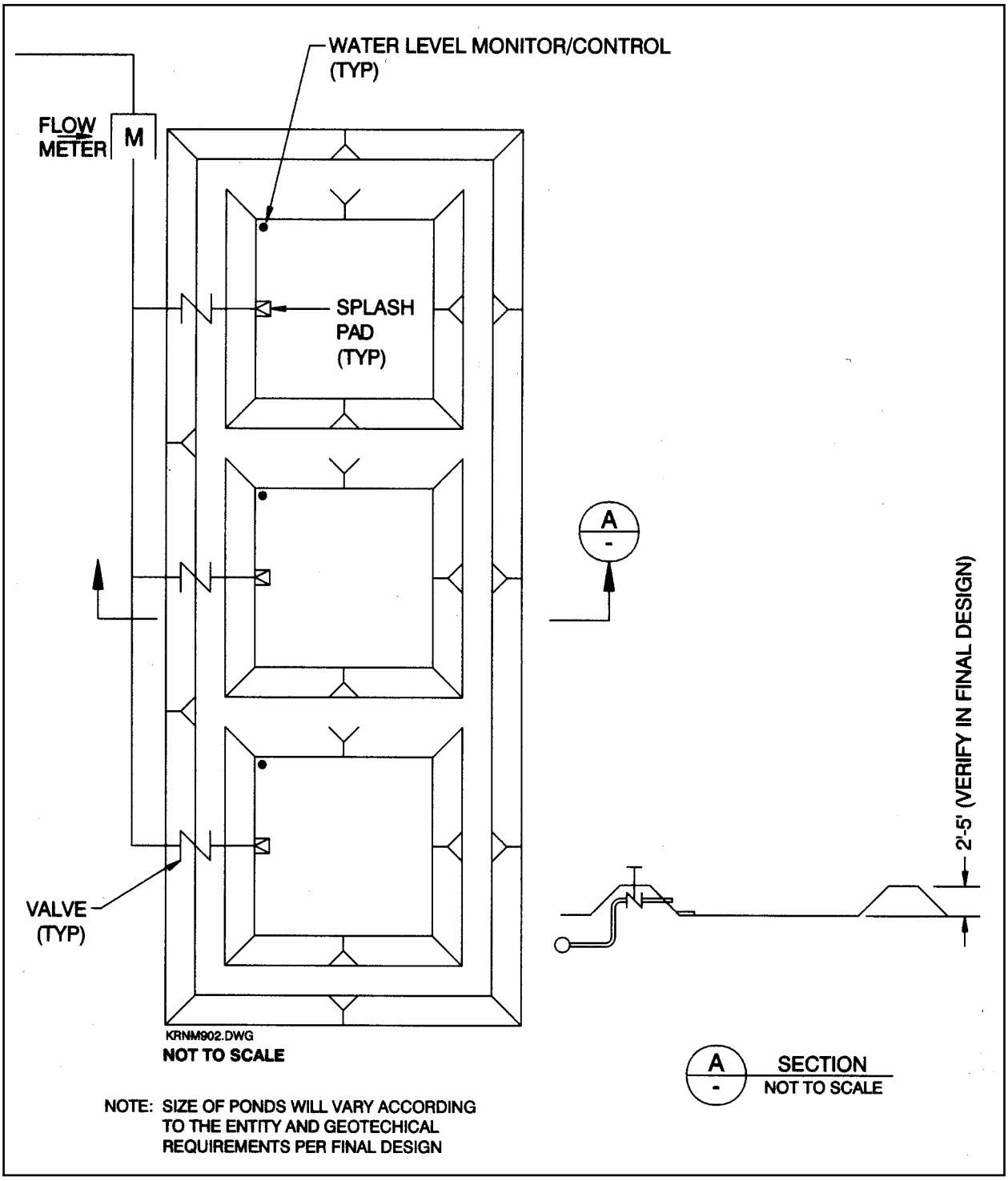
2.5.6 Water Discharge Facilities (Raw Water Option)

In the Raw Water Option, Santa Margarita, Atascadero, Templeton, and Paso Robles water allotments are to be discharged into the Salinas River underflow and the same quantity of water will be pumped from the river underflow for delivery to each entity's water system. Three raw water discharge facilities are proposed to be constructed (see Figure 2-2 for exact locations). The raw water from the distribution pipeline would be discharged into the Salinas River through these discharge facilities. For Santa Margarita, the water will be discharged at the Atascadero discharge area and the pumped water sent to Santa Margarita through wheeling within the Atascadero system and a new pipeline connection between AMWC's.

Design of these facilities can either be ponds or subsurface pipes (see Figures 2-36 and 2-37). The locations of the three discharge sites are shown on Figures 2-10, 2-11 and 2-12, respectively. The sites will be located along the stream in the overflow area but not in the main streambed. Project responsibility for operation and maintenance will end at the valve structure to the pond/basin and each entity must operate and maintain its own discharge facility.

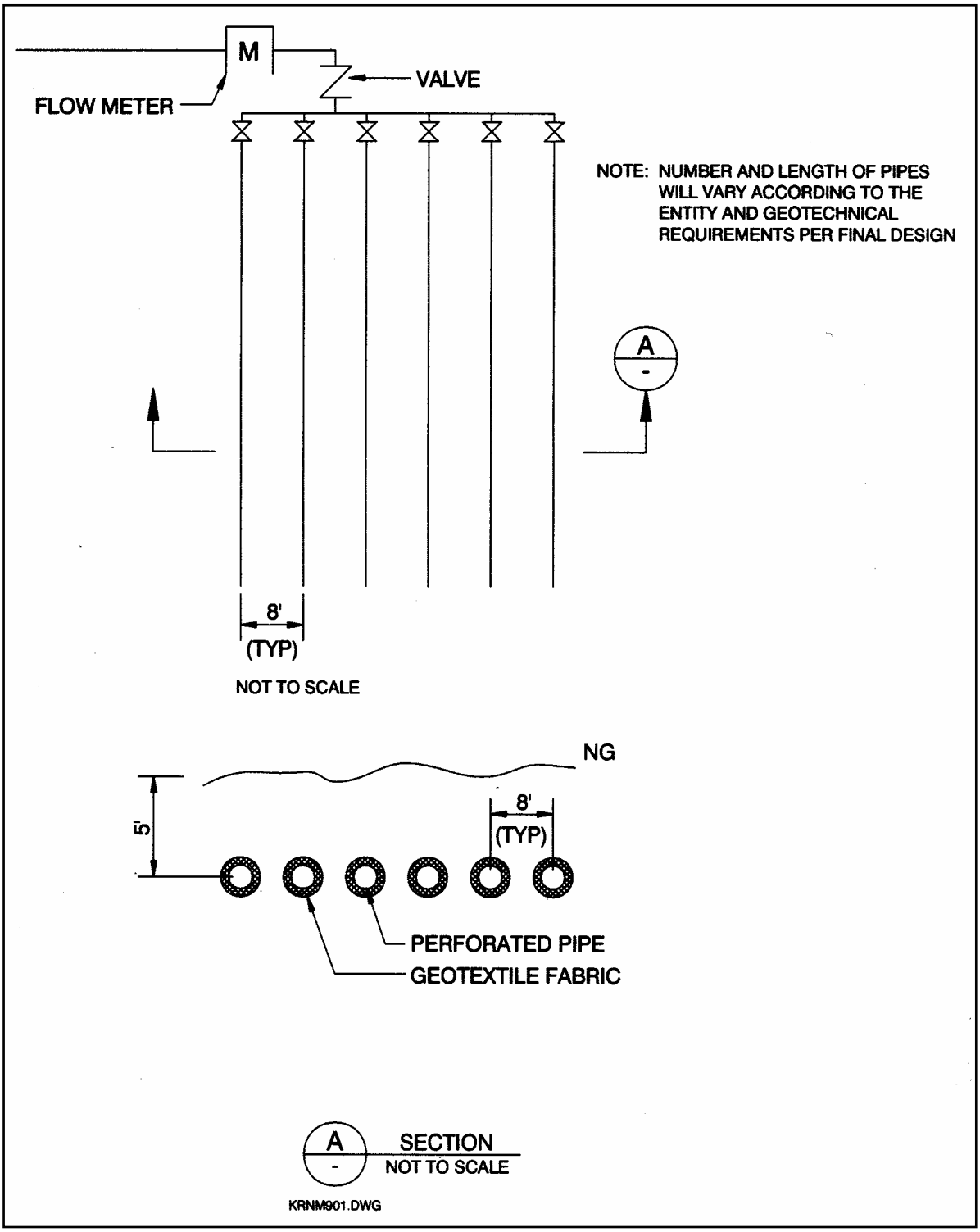
Both pond percolation and perforated subsurface pipes were considered in the preliminary design. Both methods assumed 10 feet per day of percolation. Twice the required area would be needed for the ponds is assumed to allow for rotation. The ponds, due to surface percolation, must be cleaned and maintained regularly to limit plant growth and prevent the possible habitation of various animal species. Subsurface pipes may minimize the surface maintenance but would initially cost as much as eight times that of the ponds.

Figure 2-36 Pond Discharge Facility



Source: Carollo Engineers 2002

Figure 2-37 Discharge Facility Piping System



Source: Carollo Engineers 2002

For both the subsurface pipes and ponds, the percolation criteria was 10 feet per day per square foot (ft/day/ft^2) of surface area. Twice as many ponds are part of the currently proposed project to allow for alternate wetting and drying times. The subsurface pipes have additional criteria for the trenches as follows:

- Width – 18 inches
- Depth – 5 feet
- Spacing – 8 feet

The concept will be the same for all three discharge areas but the size will vary to accommodate the differences in discharged water quantities. The preliminary concept is to bury 6-inch perforated pipe approximately 5 feet deep. The pipe will be surrounded by gravel covered by a filter fabric to keep sand from migrating into the pipes. Several rows of pipes will be laid 8 feet apart and will be fed from a manifold. The influent pipe will be valved and metered.

The length of the perforated pipe is 27,600 feet for Paso Robles, 2,000 feet for Templeton and 20,600 feet for Atascadero. The area required for these lengths of pipe is 8 acres for Paso Robles, one acre for Templeton, and 6 acres for Atascadero.

As with the subsurface pipe concept, the configuration of the ponds will be the same for all three discharge areas and will vary only in size. It is envisioned the ponds will only have 2-foot-high berms as they are intended to contain only the sheet flow from the pipe and not to hold large quantities of water.

The concept will be to have three ponds with the capacity of discharging the total flow to each pond. This will allow for drying and maintenance of the idle ponds to prevent vegetation growth. There will be a pipe manifold with a meter with flow control and pressure regulation valves and shut off valve on each pond influent pipe from the main influent line. The percolation areas required for ponds are 3.5 acres for Paso Robles, 0.2 acre for Templeton, and 2.7 acres for Atascadero/Santa Margarita.

Assuming a 30-foot access road around each site, the total acres required would be 4.0 acres for Paso Robles, 3.1 acres for Atascadero/Santa Margarita and 0.3 acre for Templeton.

2.6 Proposed Project Schedule, Equipment and Personnel Requirements

The proposed project's construction schedule is given in Figure 2-38. The schedule is preliminary; however, it is already known that construction of several parts of the proposed project could be conducted at the same time by as many as seven contractors or subcontractors. The presented schedule represents what is thought to be a worst case scenario. The worst case is required for the conservative estimates of environmental impacts (e.g., peak day air emissions).

Project equipment and personnel needs are given in Tables 2.6 and 2.7, respectively. Construction of each of the project parts is expected to be performed for 9 to10 hours per day.

Figure 2-38 Proposed Project Construction Schedule

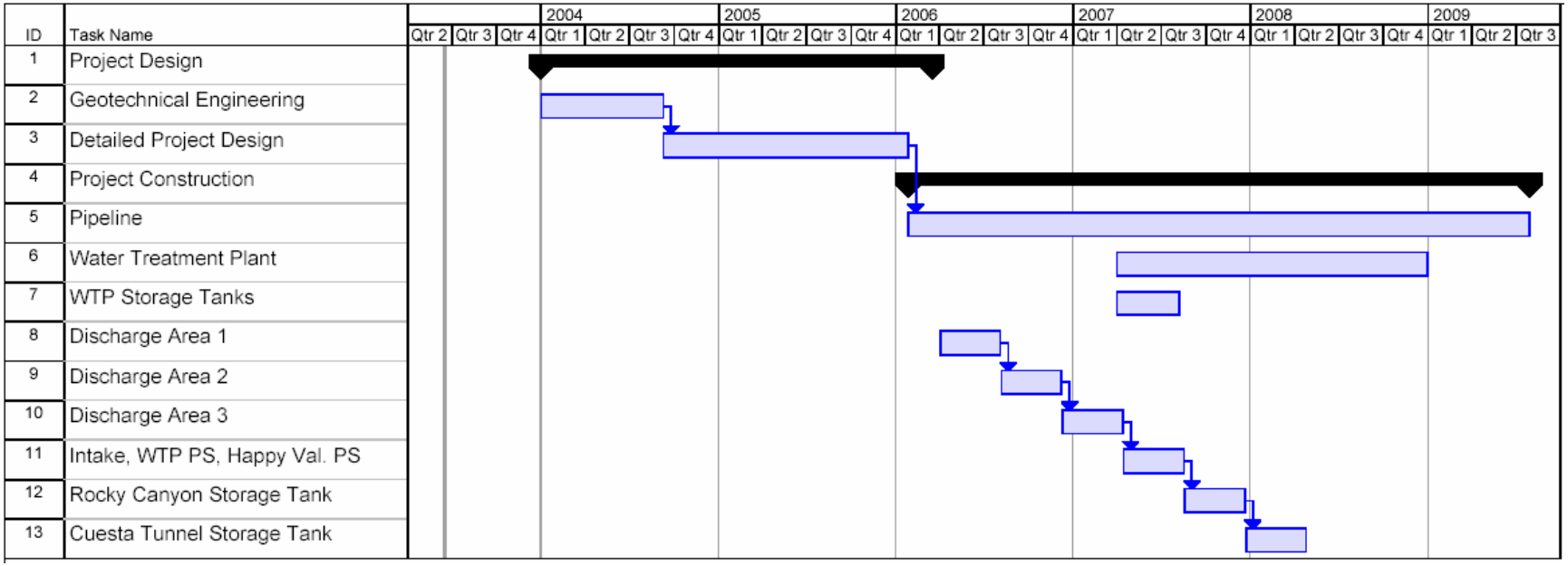


Table 2.6 Proposed Project Construction Equipment Estimates for Different Project Phases

Equipment	Water Intake[1]	Storage Tanks[1]	WTP[2]	Pump Stations[2]	Pipeline (each heading)[2]	Discharge Areas[2]
Air Compressor			1			
Backhoe		1	1	1	1	1
Barge	2					
Blade					1	
Broom					1	
Bulldozer	1	1	1	1	1	1
Cable Stringing Equipment					1	
Concrete or Asphalt Truck	1	1	1	1	3	
Compactor	1		1		1	
Crane	2	1	1	1		
Directional Drilling Rig					1	
Dredger	1		1			
Dump Truck	1	1	2	1	4	2
Excavator	1		1	1	2	
Fork Lift or Small Crane			1	1	1	
Grader	1	1	1			
Jacking and Boring Machine	1		1			
Loader	1	1	1	1	1	
Micro tunneling Equipment					1	
Motor/Generator	2		2			
Tractor				1		
Trailer with Dozer					2	
Tunneling Machine						
Water Truck	1		1		2	
Welding Truck	1	1	1			

Sources: County of San Luis Obispo, Technical Memorandum No. 2. Project Component Information, Final Draft May, 1996.

[1] Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

[2] Based on 1997 NWP EIR.

Table 2.7 Proposed Project Personnel Estimates and Construction Times for Different Project Phases

	Water Intake	Storage Tanks	WTP	Pump Stations	Pipeline	Discharge Areas
Construction						
Personnel	25-30	20	60	15	16/crew x 4 crews (total of 64)	5
Work hours per day	9-10 hours	9-10 hours	9-10 hours	9-10 hours	10 hours	9-10 hours
Total phase duration	6 months	4 months (each)	2 years	4 months (each)	3-4 years	3 months each
Operation						
Personnel, day (night) shift	1 trip/day	1 trip/week	9 (3)	1 trip/day	generally not required	Operation is not part of the proposed project
Work hours	2 to 3 hours/trip	1-2 hours/trip	24 hrs, 3 shifts, 7 days/wk	1 to 3 hours/trip	-	

Sources: County of San Luis Obispo, Technical Memorandum No. 2. Project Component Information, Final Draft May, 1996.

Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

Water Intake and Intake Pump Station–Preparation and close out time will take place one month prior and one month after construction, and will have a reduced crew working fewer hours per day. It is anticipated the construction work involved can be accomplished within 6 months. The 6 month construction period should take place when water surface elevations in the reservoir are at their lowest since this would translate into a reduction of construction costs. Lowering of the lake level to facilitate construction is not proposed.

Storage Tanks–Storage tanks could be built at the same time as portions of the proposed pipeline.

WTP–Construction of the WTP could be conducted after the pipeline system is already constructed and is in operation (as per the Raw Water Option). Construction of the WTP would then be a conversion of the Raw Water Option into the Treated Water Option. Construction of the plant may take up to 2 years, and will be accomplished by a crew of approximately 60 personnel.

Pump Stations–Construction of the pump stations could be done at the same time as some sections of the pipeline. Construction of the Intake pump station would be accomplished at the same time and would use the same equipment as the Water Intake. Construction of the other two pump stations would take approximately 12 months. The pump stations would be unstaffed facilities. Operation, maintenance and repair would be accomplished through one visit per day by an operator or service mechanic.

Pipeline–It is anticipated that construction of the proposed pipeline will begin at seven different headings: two from Nacimiento Dam to Paso Robles, three from Paso Robles to the Cuesta Tunnel, and two south of the Cuesta Tunnel. These headings average 8 to 10 miles. Each of the headings may be constructed by a separate contractor or as few as possibly three contractors. However, due to pipe supply and construction company availability, it is most likely the total pipeline construction time may be spread over 3 to 4 years. The average pipeline lay rates vary depending on the pipe lay technique and the particular area of construction. Provided in Table 2.8 are approximate time periods for different pipe lay methods when construction is active and does not include periods of delay due to weather, etc.

Discharge Areas (Raw Water Option only)–Construction of the discharge areas could be done at the same time as sections of the proposed pipeline and could be done in approximately 3 months each. Operation of these areas would not be a part of this project, and would be carried out by the water purveyor(s) being served by the facility.

Table 2.8 Approximate Time Required for Pipeline Construction

Pipe Lay Methods	Pipe Lay Speed
Typical Construction in Open Country/Camp Roberts	Average Lay Rate 200–600 feet/day
Typical Construction in City Streets	Average Lay Rate 100–250 feet/day
Specialized Construction in City Streets	Average Lay Rate 100–150 feet/day
Creek Crossings	30 to 60 days each

2.7 Discretionary Actions Required

The underground pipelines, storage tanks, pump stations, water discharge facilities, construction of WTPs, upgrading an existing WTP, and a limited number of water exchange agreements are projects under the control and operation of various public entities. As a public agency, some may enjoy specific privileges reserved for public projects in the State Subdivision Map Act and local codes. Government Code Section 65402 requires county and city planning agencies to make findings on whether certain proposed public projects would be consistent with their respective adopted general plan and zoning of a specific location using the "conformity report" procedure. The types of discretionary actions required for each component of the project are discussed in this section.

California Government Code Section (G.C.) 53091 provides that county or city building and zoning ordinances shall not apply to the location or construction of facilities for the production, generation, storage, or transmission of water by a local agency. Thus, county grading permits would not be required as long as a local agency is constructing the pipeline or facility (SLOFCWCD is considered a local agency). Because, at the present time, it is not known with certainty what entity(ies) would be responsible for constructing the local pipelines, and Section 53091 includes exemptions for local agencies, specific permit requirements are unknown. The discussion below provides an indication of the types of permits that could be required.

As mentioned in the Introduction, each local purveyor or decision-making body would need to review and consider the information in this EIR before approving the proposed project.

2.7.1 Reach 1 through Reach 8 (Lake Nacimiento to City of San Luis Obispo WTP)

The proposed use of water as a supplemental water source for SLO County dates back to 1959, when the SLOFCWCD executed an agreement with the MCWRA entitling SLO County to 17,500 afy of supply from Lake Nacimiento.

The California Department of Health Service (DHS) would be the responsible permitting agency to determine requirements under the 1993 California Health and Safety Code, Section 115825, referencing body contact in reservoirs used for domestic water supply. An amendment to the Health and Safety Code (AB 1460) allows recreation to continue at Lake Nacimiento concurrent with use of lake waters for domestic supply (see Appendix D for the full text of AB 1460). DHS would be responsible for placing permit conditions on the proposed project under AB 1460. A copy of the DHS permit for the project is included in Appendix F.

Construction of the proposed project includes a pipeline proposed primarily within County and State road ROWs. Within public ROWs, no land use or grading permits for the project would be required. The County Public Works Department is responsible for issuing encroachment permits for pipeline installation work within county road ROWs for work performed by private contractors. An encroachment permit would also be required for construction in city streets for Paso Robles and Atascadero (treated water connection). The California Department of Transportation (CalTrans) has jurisdiction in the State ROW. Without the exemption referred to in G.C. 53091, installation of pipeline on private land would require grading permits (Land Use Ordinance [LUO] Section 22.05.026). This includes locations within existing private road or Southern Pacific Railroad (SPRR) easements. Where streambeds, wetlands, or areas with

riparian vegetation are crossed, CDFG 1600 permits must be obtained from the CDFG and, possibly, 404 permits of the Clean Water Act issued by the ACOE. These permit requirements are more fully discussed in the Biological Resources section of this EIR. A General Plan Conformity Report would also be required for all permanent facilities, including the Intake at Lake Nacimiento, storage tank sites, pump stations, discharge ponds, and the WTP sites. For construction within Camp Roberts, a Use License will be required from the ACOE.

Discharge of water into dry water courses or stream beds, as proposed under the raw water option of the NWP, may require permits from the Regional Water Quality Control Board (i.e., a National Pollutants Discharge Elimination System [NPDES]). The discharge of water is of concern due to the potential for affecting water quality as a supplemental foreign source. Construction of the pipeline, discharge ponds, and treatment facilities may also trigger the requirement for a General Construction Activity Storm Water Permit.

The City of Atascadero would require grading permits for pipeline installation outside of the public road ROW, unless the pipelines are considered exempt per G.C. 53091. Within the public road ROW, only an encroachment permit would be required.

2.7.2 Reaches 8A Through 10

Pipeline extensions to connect with existing water purveyor facilities would be primarily located within county road ROWs, with the exception of Reach 10, which would be located in the City of San Luis Obispo and in areas designated as agricultural. Within the City of San Luis Obispo street ROWs, pipeline construction would require an encroachment permit, plan check and inspection, and possibly a franchise agreement for operation of a water utility through the city and a public improvement plan. No land use permits are required for public projects within county road ROWs. However, outside county road ROWs, a conformity report may need to be filed by the County Planning Department to determine compatibility with the county General Plan and zoning ordinances.

2.7.3 Water Treatment Plants

Permits required for construction and operation of a WTP include an Operations Plan and compliance with applicable regulations, as administered by the Department of Health Services, Office of Drinking Water in the Domestic Water Supply Permit. A description of the proposed hazardous materials storage, transport, and handling is required by the SLO County Health Department, Division of Environmental Health, in a Hazardous Materials Business Plan. An injury and illness prevention plan is required under State of California Division of Occupational Safety and Health (Cal/OSHA), Title 8, Section 3208. The Uniform Fire Code, 1988, Article 80 has been adopted by the SLO County Fire Department and requires approval of storage locations of hazardous materials.

2.7.4 Summary of Permit Requirements

- Outside the Coastal Zone, pipelines proposed within county road ROWs do not require land use permits (LUO Section 22.01.031a); only a road encroachment permit may be necessary.
- A General Plan Conformity Determination would be required by the County and all cities in which pipelines and related project facilities are located.
- The proposed water treatment facilities would be reviewed by the County Planning Department under the General Plan Conformity Report procedure (General Plan Land Use and Circulation Element, Framework for Planning, Inland Area, Chapter 8, pg. 8-13).
- Construction within the cities of El Paso de Robles (Paso Robles), Atascadero, and San Luis Obispo may require an encroachment permit, unless exempted by Government Code Section 53091.
- Additional State and Federal permits may be required from the CDFG and the ACOE, depending on the presence of biological resources, as discussed in this EIR.
- Where construction occurs in the ROW of a State Highway, a CalTrans encroachment permit would be required.
- Easements or other appropriate permits would be necessary where pipelines encroach on utility corridors. Utilities known to be in the project area include SPRR, oil and gas pipelines, and electrical transmission cables.
- The State Department of Health Services, Office of Drinking Water regulates the design, construction, and operation of surface water treatment through a Domestic Water Supply Permit.
- The transport, storage, use, and disposal of hazardous materials are regulated by State and local authorities through Title 24 of the California Code of Regulations requiring filing of a Hazardous Materials Business Plan with the County Health Department, and the 1988 version of the Uniform Fire Code, Article 80, regarding approval of chemical storage locations by the County Fire Department.

Table 2.9 displays a preliminary listing of the permits and associated permitting authority for each of the pipeline segments, two storage tanks, three pump stations, three water discharge facilities, construction of up to three WTPs, upgrading an existing WTP, and a limited number of water exchange agreements. Permits would be required as noted by an "X" in Table 2.9. The local water distribution project Reach elements 1 through 10 correspond to Table 2.3.

Table 2.9 Summary of Permit Requirements

Permit	Permit Authority	Reach														
		Pump Stations, Intake &Tanks	1	3	3A	4	5	6	7	7A	8	8A	9	10	WTP	Discharge Pond
Authority to Construct (ATC)	Air Pollution Control District	X													X	
Storm Water Permit	State Water Resource Control Board															X
Grading Permit (GP)	SLO County Planning & Building Department	X						X							X	
Domestic Water Supply	Department of Health Services														X	X
Entitlement	Monterey County Water Resources Agency	X														
SLO County General Plan Conformity Determination	SLO County Planning & Building Department	X	X	X	X	X	X	X	X	X		X		X	X	X
Hazardous Materials Business Plan	SLO County Environmental Health														X	
Uniform Fire Code and Title 19 of SLO County Construction Ordinance	CDF/SLO County Fire Department	X													X	
1988 Uniform Fire Code, Article 80, relative to hazardous materials storage	CDF/SLO County Fire Department														X	
Streambed Alteration Permit	CDFG	X	X	X	X	X		X	X			X		X		
ACOE Section 404 Permit	ACOE	X	X	X	X	X		X	X			X		X		X
Use-License (Camp Roberts)	ACOE	X	X	X											X	
Utilities	SPRR, etc.				X				X			X				

Table 2.9 Summary of Permit Requirements

Permit	Permit Authority	Reach														
		Pump Stations, Intake &Tanks	1	3	3A	4	5	6	7	7A	8	8A	9	10	WTP	Discharge Pond
City of Paso Robles General Plan	Paso Robles				X											
City of Atascadero General Plan	Atascadero						X	X	X							
Road Encroachment	SLO County Engineering		X	X	X	X	X	X	X	X		X		X		
Road Encroachment	City of Paso Robles				X											
Road Encroachment	City of Atascadero						X	X	X							
Road Encroachment	City of San Luis Obispo											X	X	X		
Road Encroachment	CalTrans		X	X	X	X	X	X	X	X	X			X		

Note: Reaches 2, 6A, 6B, 7B are fixed facilities and are covered under the water treatment plant and pond headings.

Source: San Luis Obispo County, SLO EIR, NWP 1997 EIR and SLOFCWCD

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇦P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-3
PIPELINE ALIGNMENT
STA 0+00 TO STA 150+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇦P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-4
PIPELINE ALIGNMENT
STA 150+00 TO STA 310+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

corollo engineers

0 500' 1000' 2000'

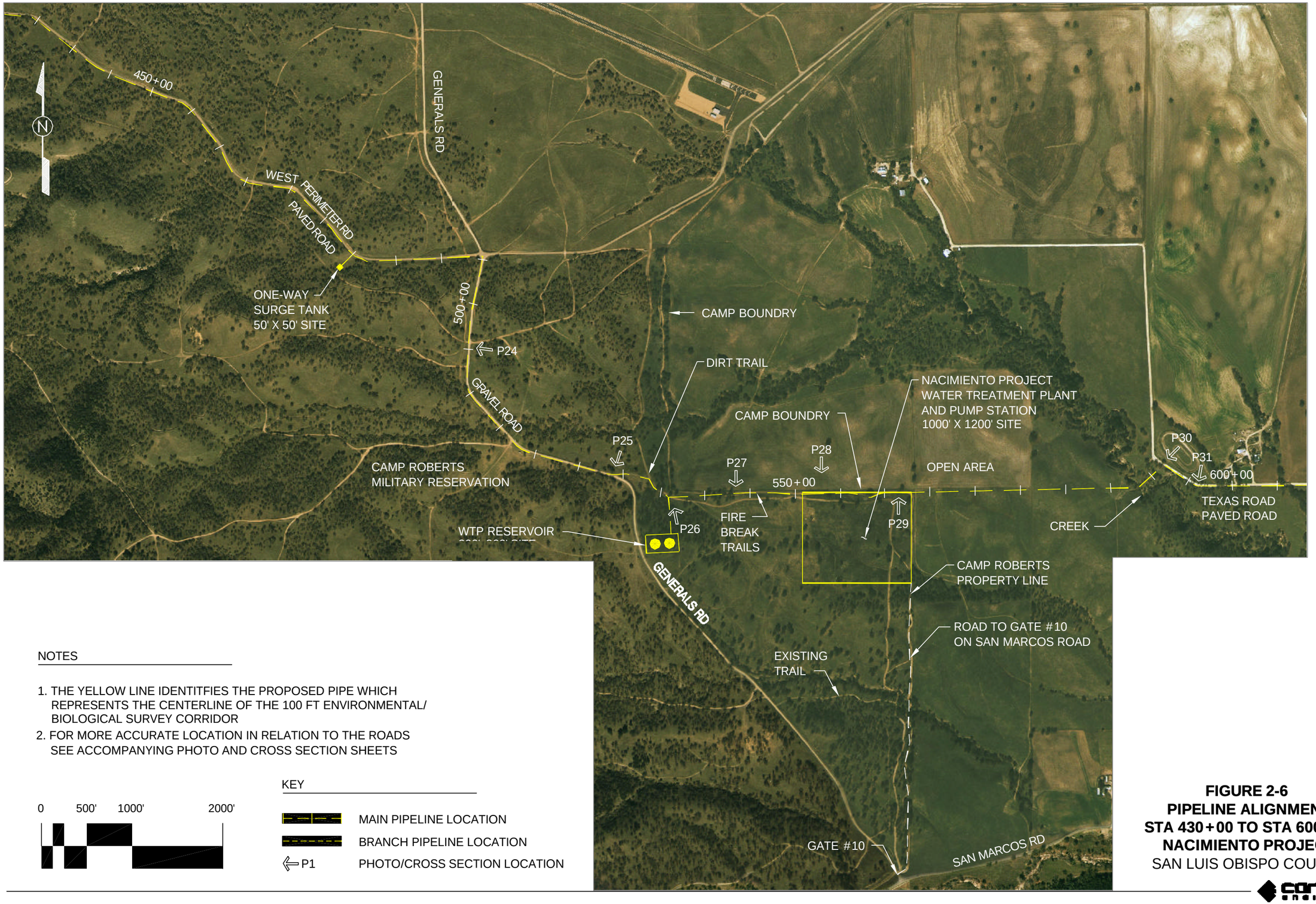
KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-5
PIPELINE ALIGNMENT
STA 310+00 TO STA 430+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY



NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

⇦P1 PHOTO/CROSS SECTION LOCATION

FIGURE 2-6
PIPELINE ALIGNMENT
STA 430+00 TO STA 600+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

corollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇦P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-7
PIPELINE ALIGNMENT
STA 600+00 TO STA 752+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-8
PIPELINE ALIGNMENT
STA 752+00 TO STA 902+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇐ P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-9
PIPELINE ALIGNMENT
STA 902+00 TO STA 1052+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

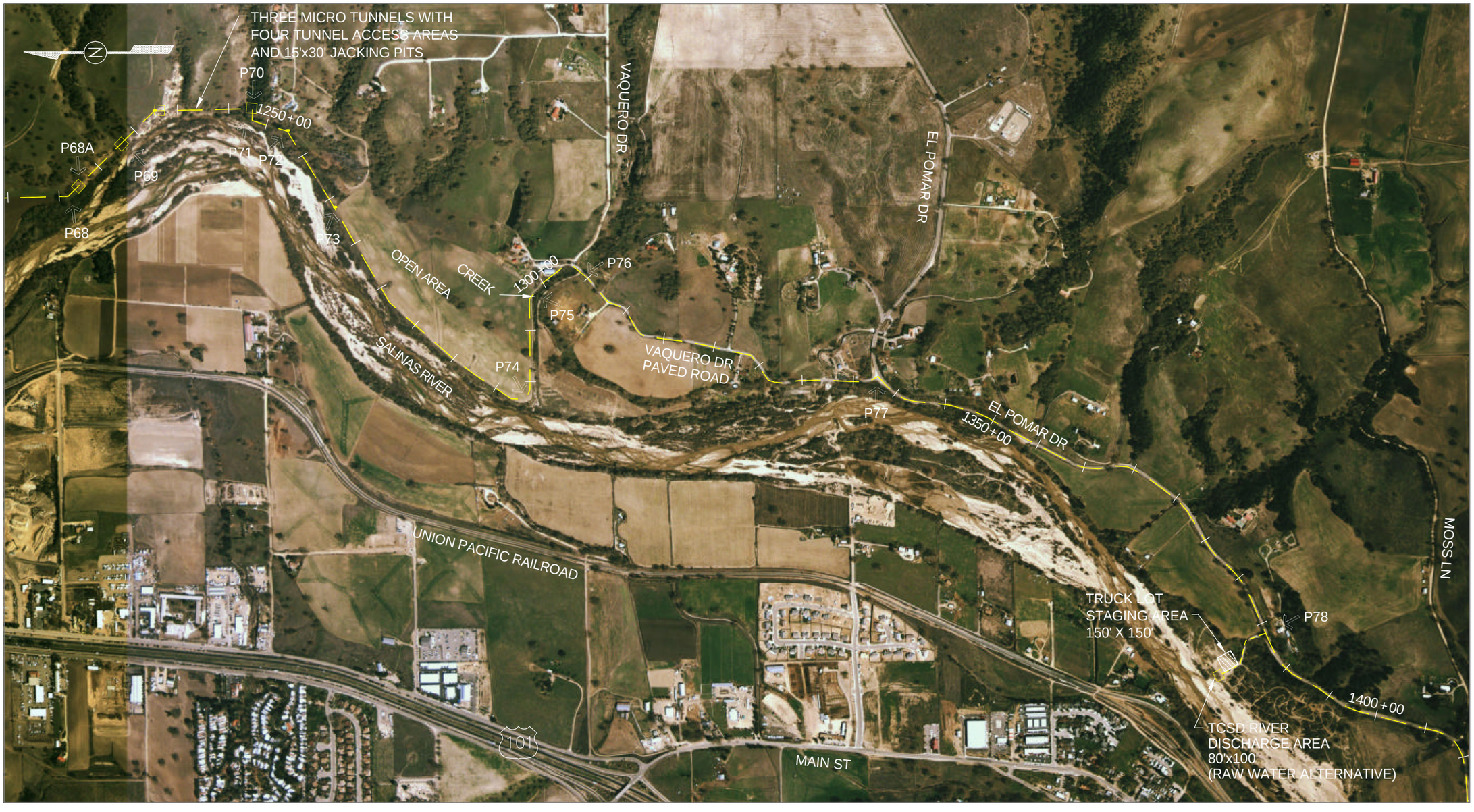
P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-10
PIPELINE ALIGNMENT
STA 1052+00 TO STA 1220+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers



0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-11
PIPELINE ALIGNMENT
STA 1220+00 TO STA 1400+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-12
PIPELINE ALIGNMENT
STA 1400+00 TO STA 1550+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-13
PIPELINE ALIGNMENT
STA 1550+00 TO STA 1690+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇦ P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-14
PIPELINE ALIGNMENT
STA 1690+00 TO STA 1850+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇐P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-15
PIPELINE ALIGNMENT
STA 1850+00 TO STA 2020+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-16
PIPELINE ALIGNMENT
STA 2020+00 TO STA 2180+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

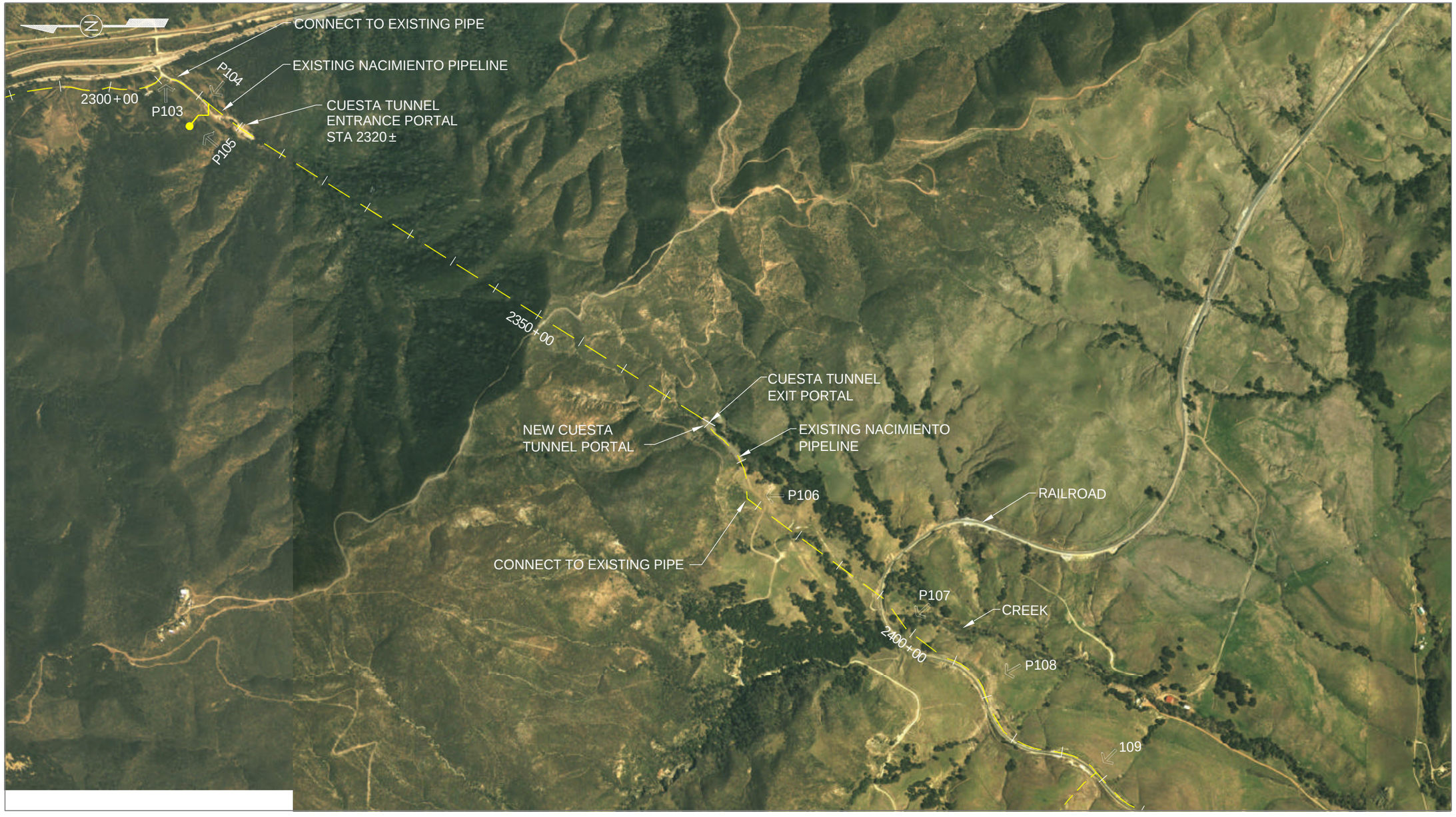
KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-17
PIPELINE ALIGNMENT STA 2170+00 TO CUESTA TUNNEL (STA 2320±) NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY



0 500' 1000' 2000'

KEY

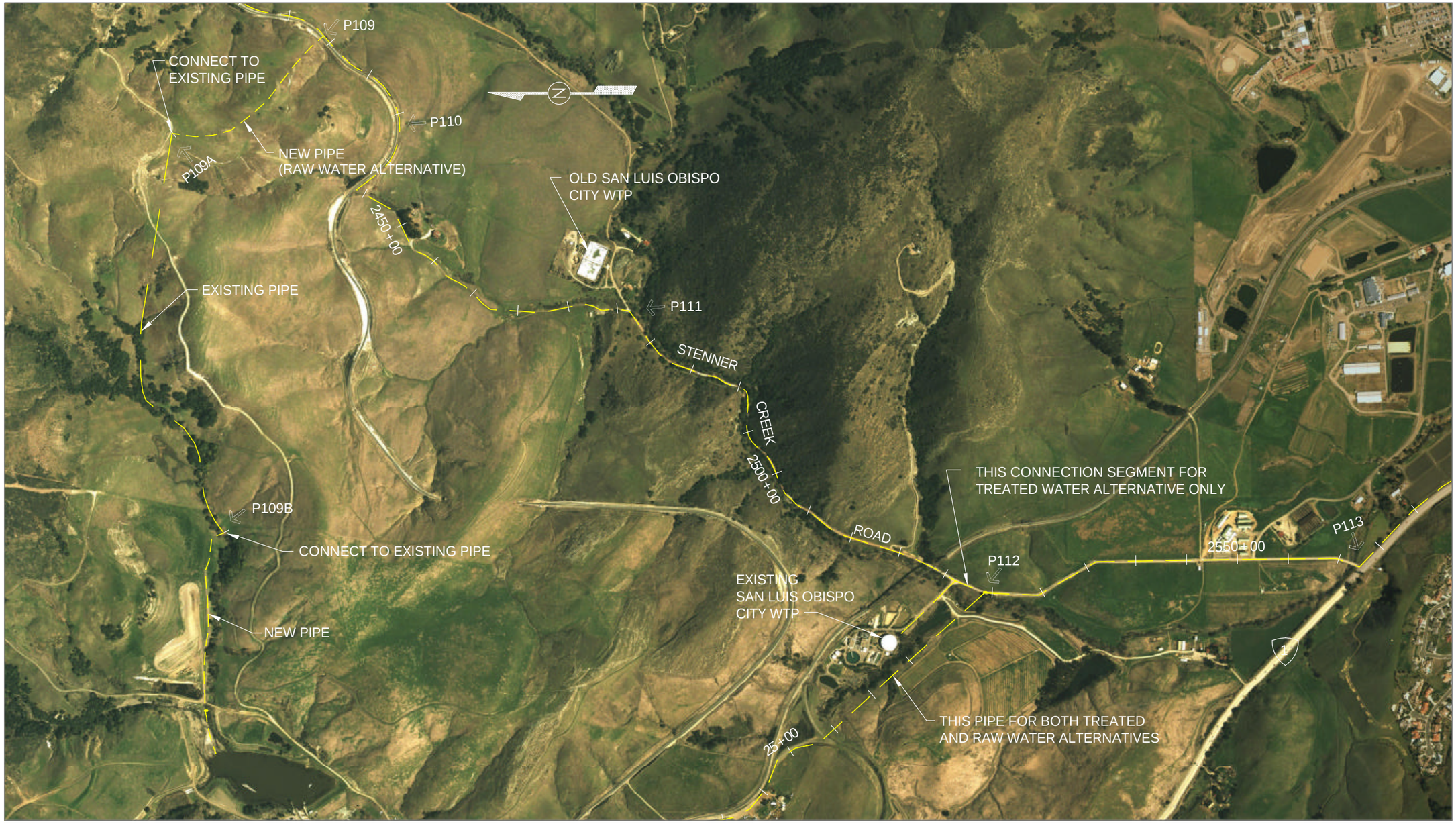
- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-18
PIPELINE ALIGNMENT CUESTA TUNNEL
STA 2320± TO STA 2430+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers



0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-19
PIPELINE ALIGNMENT
STA 2420+00 TO STA 2522+89
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- ⇐P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-20
PIPELINE ALIGNMENT
START PIPELINE 2 - STA 2522+89
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-21
PIPELINE ALIGNMENT
STA 2530+00 TO STA 2720+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-22
PIPELINE ALIGNMENT
STA 2720+00 TO STA 2830+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-23
PIPELINE ALIGNMENT
STA 2830+00 TO STA 2990+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-24
PIPELINE ALIGNMENT
STA 2990+00 TO END
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers